Honeywell

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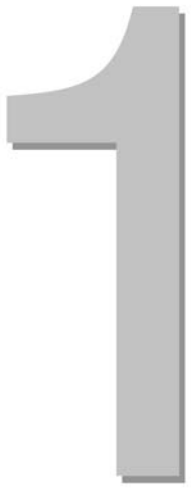


Honeywell

Controller for fan coil / lights / sunblinds, Excel 12

Multifunctional controller for 2- and 4- pipe induction/fan coil units, light and sunblinds. The Excel 12 is a room and zone controller which is suited for use in a wide variety of solutions.
The Excel 12 is configurable through an LNS Plug-in, with CARE or any other LNS based tool. The HVAC part of the Excel 12 includes a multifunctional controller for induction units and fan coil units. Together with Web office console and Excel ZAPP, Excel 12 offers a complete room control and operation solution.

Control functions	choice of 3 standard applications: • heating/cooling and 3-stage fan; 2x lights on/off, up to 2 lights dimming or contant light control; sunblind positioning • 3x heating/cooling and 3-stage fan; 3x lights on/off, up to 2 lights dimming or contant light control; free inputs and outputs for access via LON • 2x heating/cooling and 3-stage fan; 4x lights on/off, up to 2 lights dimming or contant light control; free inputs and outputs for access via LON
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	• profile 8501: SCC - Fan Coil (one instance) • profile 3040: Lamp Actuator (two instances) • profile 1060: Occupancy Sensor (one instance) • Closed-Loop Actuator Object 4: Sunblind Actuator (one instance)
Hardware inputs	• 7 analog inputs for sensors and setpoint adjustment • 4 digital inputs for push buttons for light, sunblind up/down
Hardware outputs	• 2 analog outputs for actuators and/or lights • 11 digital outputs (6 triac, 5 relay) for 3-point actuators, lights, sunblinds and fans

Power supply Vac; VA	Type
24; 10	**W7704D1008**
230; 20	**W7704D1016**

Controller for chilled ceilings, Excel 10

Room temperature controller for chilled ceilings with condensation protection.
For cooling with chilled ceiling and heating with radiator.

Heating output signal	2 triacs (24 V~, 250 mA) configurable for thermal, 3-pt, PWM or single/multistage control
Cooling output signal	2 triacs (24 V~, 250 mA) configurable for thermal, 3-pt, PWM or single/multistage control
Control functions	heat only, cool only, heat/cool change over, heat and cool in sequence; dewpoint control, minimum hot water temperature control, zero energy band
Modes of operations	occupied, standby, unoccupied, open window, frost protection, summer/winter change over, dewpoint, condensation
Obligatory inputs	analogue input for room temperature sensor NTC20k; or apply additional XL10 wall-module with built in sensor on dedicated input terminal
Optional inputs	• 2 universal inputs configurable for: window or occupancy or movement or change over or condensation or cold water • 1 analogue inputs for roomhumidity • XL10 wall module input (T7460, T7560 -series) with temperature sensor and other functions • network inputs for dewpoint/condensation • network input for temperature sensor, setpoint adjustment, bypass and other functions
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8020
Power supply	24 Vac; 0,5 VA

Setpoint knob °C	Built in room temperature sensor	Built in occupancy extension button	Type
10 ... 35	•	•	**W7763C1024**
- ... +	•	•	**W7763C1032**
- ... +	–	–	**W7763D1030**
–	–	–	**W7763E1003**

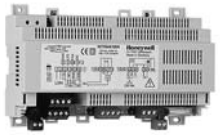
Controller for fan coil unit, Excel 10

Room temperature controller for 2- and 4-pipe fan coil units.
For heater, cooler, electric re-heat and 1,2,3-speed fans.

Heating output signal	2 triacs (24V~, 250mA) configurable for thermal, 3-pt, PWM or single/multistage control
Cooling output signal	2 triacs (24V~, 250mA) configurable for thermal, 3-pt, PWM or single/multistage control
Fan output signal	3 relays (250V~, 3A)
Re-heat output signal	1 relay (250V~, 10A) (6A UL916)
Control functions	heat only, cool only, heat/cool change over, heat and cool in sequence; in addition electrical reheat; zero energy band
Modes of operations	occupied, standby, unoccupied, open window, frost protection, smoke control, fan fail, summer/winter change over
Obligatory inputs	1 analogue input for room temperature sensor NTC20k; or apply additional XL10 wall-module with build in sensor on dedicated input terminal
Optional inputs	• 1 digital input configurable for: window or occupancy or or movement or change over or airflow • XL10 wall module input (T7460, T7560-series) with temperature sensor and other functions • network input for temperature sensor, setpoint adjustment, bypass and other functions
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8020
Power supply	230 Vac; 30 VA
Fan speed outputs	3
Re-heat output	yes

	Type
	W7752D2007

Controller for fan coil unit, compact, Excel 10



Room temperature controller for 2- and 4-pipe fan coil units.
For heater, cooler, electric re-heat and 1,2,3-speed fans.

Heating output signal	triacs (230V~, 500 mA) configurable for thermal, 3-pt, PWM or single/multistage control
Cooling output signal	triacs (230V~, 500 mA) configurable for thermal, 3-pt, PWM or single/multistage control
Fan output signal	3 relays (250V~, 3A)
Re-heat output signal	1 relay (250V~, 10A) (6A UL916)
Control functions	heat only, cool only, heat/cool change over, heat and cool in sequence; in addition electrical reheat; zero energy band
Modes of operations	occupied, standby, unoccupied, open window, frost protection, smoke control, fan fail, summer/winter change over
Obligatory inputs	1 analogue input for room temperature sensor NTC20k; or apply additional XL10 wall-module with build in sensor on dedicated input terminal
Optional inputs	• 1 digital input configurable for: window or occupancy or or movement or change over or airflow • 1 digital input for window contact • XL10 wall module input (T7460, T7560-series) with temperature sensor and other functions • network input for temperature sensor, setpoint adjustment, bypass and other functions
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8020

Power supply Vac; VA	Triac outputs 230Vac	Auxiliary output signal	Type
230; 6	1x for cooling	low voltage digital output for solid state relay (Carlo Gavazzi RS1A23D25-P64, 25 A)	**W7754K1001**
230; 6	4x for heat/cool	–	**W7754P1000**
24; 3	4x for heat/cool	–	**W7754Q1008**

Accessories

Package of 8 swivel label holders, for 230V modules with override switches	**XAL-LAB-L**
Package of 8 terminal protection covers 230V modules (for wall/ceiling mounting)	**XAL-COV-L**
Removable plug for LON tool with jumper for termination of LON network	**XAL-TERM**

Controller for hydronic installations, Excel 10

Room temperature controller for induction units, fan coil units without fan, radiators.
For heater and cooler.

Heating output signal	2 triacs (24V~, 250mA) configurable for thermal, 3-pt, PWM or single/multistage control
Cooling output signal	2 triacs (24V~, 250mA) configurable for thermal, 3-pt, PWM or single/multistage control
Control functions	heat only, cool only, heat/cool change over, heat and cool in sequence; zero energy band
Modes of operations	occupied, standby, unoccupied, open window, frost protection, summer/winter change over
Optional inputs	• 1 digital input configurable for: window or occupancy or movement • 1 analogue input for room temperature sensor NTC20k; or apply additional XL10 wall-module with built in sensor on dedicated input terminals • XL10 wall module input (T7460, T7560-series) with temperature sensor and other functions • network input for temperature sensor, setpoint adjustment, bypass and other functions
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8020
Power supply	24 Vac; 0,5 VA

	Type
	W7762B1019

Controller for VAV units, Excel 10

Room temperature controller for pressure (in)dependent, single/dual duct, VAV units, with built in Microbridge air flow sensor.
For damper for cool air, re-heat peripheral re-heat and fan.
The XL10 controllers support 8 triac outputs.

Fan output signal	1 triac configurable for on/off or PWM
Re-heat output signal	1..3 triacs configurable for 3-pt, PWM or single/multistage control
Damper output signal	2 triacs for 3-pt control
Auxiliary output signal	1..3 triacs for up to 2 maintained outputs (1 triac each) or up to 1 maintained (1 triac) + pulsed output (2 triacs)
Control functions	cooling only, heat/cool change over, cooling/reheat seq. with constant or modulating reheat airflow, cooling /radiator heating seq. with minimum heat, dual duct, dual duct mixed flow; cooling reheat radiator sequence, series/parallel fan, modulating fan
Control functions with 2 controllers	dual duct constant volume, dual duct mixed flow, dual duct no flow mixing
Modes of operations	occupied, standby, unoccupied, open window, fan fail, summer/ winter change over, night purge, morning warm up, smoke purge
Obligatory inputs	• 1 analogue input for room temperature sensor NTC20k; or apply additional XL10-module with built in sensor on dedicated input terminals • airflow
Optional inputs	• XL10 wall module input (T7460, T7560-series) with temperature sensor and other functions • network input for temperature sensor, setpoint adjustment, bypass and other functions • 1 analogue input for discharge temperature or supply temperature sensor NTC20k • 3 digital inputs configurable for: window or heat/cool change over or occupancy or status alarm
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8010
Power supply	24 Vac; 10 VA
Additional description	Load per triac 24V~, 25..400mA. The maximum load for all triacs together is 400mA.

Model	Type
with terminals inside	**W7751D2016/U**
with terminals outside	**W7751F2011/U**

Controller with damper actuator for VAV units, Excel 10 Smart

Room temperature controller for pressure (in)dependent, single/dual duct, VAV units, with built in Microbridge air flow sensor, and actuator.
For cool air damper, re-heater/radiator and fan.

Control output signal	2 triacs (24V~, 25..400mA) configurable for 3-pt, PWM or single/ multistage control for: • 3-pt actuator or, • 2-stage reheater or, • 1-stage reheater + fan, or • 1 fan
Control functions	cooling only, heat/cool change over, cooling/reheat seq. with constant or modulating reheat airflow, cooling /radiatorheating seq. with minimum heat, dual duct, dual duct mixed flow, series/ parallel fan
Control functions with 2 controllers	dual duct constant volume, dual duct mixed flow, dual duct no flow mixing
Modes of operations	occupied, standby, unoccupied, open window
Obligatory inputs	• 1 analogue input for room temperature sensor NTC20k; or apply additional XL10 wall-module with build in sensor on dedicated input terminals • airflow
Optional inputs	• XL10 wall module input (T7460, T7560-series) with temperature sensor and other functions • network input for temperature sensor, setpoint adjustment, bypass and other functions • 1 analogue input configurable for discharge or supply or room temperature sensor NTC20k • network input for open window, occupancy, change over
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8010
Power supply	24 Vac; 6 VA
Torque	6 Nm
Housing (HxWxD)	142 mm; 103 mm; 76 mm
Protection class	IP40 for all mounting directions

	Type
	W7751H3007
Auxilliary switch kit, with 2 SPDT freely adjustable switches, IP54, cable 1 m	**SSW2-1M**

Controller for constant volume air handling units (CVAHU), Excel 10

Room temperature controller for constant volume air handling units, and heatpump air handlers. For heater, cooler (or heatpump) damper and fan.
The XL10 CVAHU controllers support 8 triacs 24Vac (expanded version) or 5 triacs 24Vac plus 3 analogue outputs 4..20mA (analogue version).

Heating output signal	PWM, 3-pt floating, 1..4 stages or modulating 0..10V (analogue version only)
Cooling output signal	PWM, 3-pt floating, 1..4 stages or modulating 0..10V (analogue version only)
Fan output signal	1 stage on/off
Damper output signal	3-pt floating
Changeover output signal	1 stage heat/cool
Auxiliary output signal	2 outputs with 1 stage on/off configurable for occupied status or free configurable via network
Control functions	sequence control for damper/cooling/heating, staged with minimum on/off times or modulating control with damper minimum position; discharge air limit control; setpoint ramping; demand limit control; zero energy band
Modes of operations	occupied, standby, unoccupied, open window, filter, economizer, indoor air quality, air flow, shutdown, smoke, intermittent fan, outside air lock out
Obligatory inputs	1 analogue input for room temperature sensor NTC20k or Pt3000; or apply additional XL10 wall-module with built in sensor on dedicated input terminals
Optional inputs	• XL10 wall module input (T7460, T7560 -series) with temperature sensor and other functions • network input for temperature sensor, setpoint adjustment, bypass and other functions • 1 analogue input configurable for discharge, return or outdoor air temperature sensor NTC20k (or Pt3000) • 1 digital input for bypass button • 2 digital inputs configurable for time clock, open window, filter, economizer, indoor air quality, occupancy, air flow, shutdown, smoke • network input for economizer
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8030
Power supply	24 Vac; 6 VA
Additional description	The 24Vac triac outputs are rated at 500mA.

Model	Triac outputs 24Vac	Current outputs 4..20mA	**Type**
expanded version	8	–	**W7750B2011/U**
analogue version	5	3	**W7750C2001**

Excel 10 Zone Manager

The Q7750A Excel 10 Zone Manager is a programmable master controller for an Excel 10 subsystem. It provides energy management functions and communication interfaces between EXCEL 5000 System products and the Excel 10 Echelon LONWORKS (E-Bus) network. The Q7750A provides C-Bus (9600 baud and 1M baud) and E-Bus (78k baud) communication interfaces. It also maps user selectable Excel 10 subsystem data points into C-Bus points with a full set of point attributes, including user addresses.

	Type
	Q7750A2003

Zone controller, SERVAL

Room temperature controller for 2- and 4-pipe fan coil units, radiators, floorheating and chilled ceiling. For heater, cooler, electric re-heat and 1,2,3-speed fans.

Heating output signal	2 triacs (500 mA) configurable for thermal, 3-pt or PWM control
Cooling output signal	2 triacs (500 mA) configurable for thermal or 3-pt control
Fan output signal	3 relays (250V~, 3A)
Re-heat output signal	1 relay (250V~, 10A) (6A UL916)
Control functions	heat only, cool only, heat/cool change over, heat and cool in sequence; in addition electrical reheat; zero energy band
Modes of operations	occupied, standby, unoccupied, open window, frost protection, smoke control, fan fail, summer/winter change over
Obligatory inputs	1 temperature input for CentraLine wall module
Optional inputs	configurable with COACH: • 1 digital input configurable for: window or occupancy or or movement or change over or airflow • 1 digital input for window contact
Stand-alone operation	yes
Network operation	yes
Bus system	LonWorks(R)
LonMark(R) profile	8020
Additional description	Use COACH software from CentraLine to select the right control software for the required installation.

Power supply Vac; VA	Type
230; 6	**CLSE1L230**
24; 3	**CLSE1L24**

Accessories

Package of 8 terminal protection covers	**XAL-COV-L**

LonWorks/BACnet free programmable room controller, LYNX

The controllers are for use in VAV (Variable Air Volume) and Unitary HVAC control applications. Each controller communicates via LonWorks(R) or BACnet MS/TP network communications. Each controller provides flexible, universal inputs for external sensors, digital inputs, and a combination of analog outputs and digital Triac outputs. The Sylk Bus is included in each controller which enables connection to other Sylk enabled devices. These controllers provide many options and advanced system features that allow state-of-the-art individual room control. Each controller is programmable and configurable using the COACH^{AX} software.

Controllers

Hardware inputs	Hardware outputs	Power supply Vac; VA	BACnet connection	LonWorks(R) connection	Type
1 universal	1 analog, 2 digital	24; 5	–	directly connectable	**CLLYUL1012S**
4 universal	2 analog, 4 digital	24; 5	–	directly connectable	**CLLYUL4024S**
6 universal, 4 digital	3 analog, 8 digital	24; 5	–	directly connectable	**CLLYUL6438S**
6 universal, 4 digital	3 analog, 8 digital	24; 5	directly connectable	–	**CLLYUB6438S**

VAV controllers with damper actuator 5 Nm

Hardware inputs	Hardware outputs	Power supply Vac; VA	BACnet connection	LonWorks(R) connection	Type
–	–	24; 9	–	directly connectable	**CLLYVL0000AS**
4 universal	2 analog, 2 digital	24; 9	–	directly connectable	**CLLYVL4022AS**
6 universal, 4 digital	3 analog, 6 digital	24; 9	–	directly connectable	**CLLYVL6436AS**
6 universal, 4 digital	3 analog, 6 digital	24; 9	directly connectable	–	**CLLYVB6436AS**

VAV controllers

Hardware inputs	Hardware outputs	Power supply Vac; VA	BACnet connection	LonWorks(R) connection	Type
4 universal	2 analog, 4 digital	24; 5	–	directly connectable	**CLLYVL4024NS**
6 universal, 4 digital	3 analog, 8 digital	24; 5	–	directly connectable	**CLLYVL6438NS**
6 universal, 4 digital	3 analog, 8 digital	24; 5	directly connectable	–	**CLLYVB6438NS**

Configurable wall modules

Lynx wall module with room temperature sensor and backlit display	**CLCMTR70**
Lynx wall module with room temperature and humidity sensor, and backlit display	**CLCMTR70-H**

Accessories

Installation box for Micro Lynx models (types .L00., .L10., .L40.)	**WB10707/U**

Remote control system, Excel ZAPP

Excel ZAPP consists of a Radio Frequency handheld unit, room temperature sensors and a receiver. The receiver provides signals for a LonWorks(R) network. Components that can be controlled on the network are for example:

- Honeywell Excel 10 room controllers
- Honeywell Excel 50 system controllers
- sun blind controllers
- lighting controllers
- etc.

For offices hotels etc. with individual room control applications. For each room a handheld is applicable for manual operation of the room installations.

Manual operation functions	• occupancy • adjust setpoint temperature • adjust fanspeed • operate sunblinds • switch/dim lights • second light or other purpose • selection of predefined office styles; definition of office styles can be done by the user, without any tools
LED functions	for Handheld: battery test, child proof lock
Approvals	CE, for RF approvals contact Honeywell for approval papers
Transceiver type	for Receiver: LonWorks(R) FTT 10A
Mounting	for Receiver: panel, wall, standard wall outlet
Additional description	Up to 8 handhelds, and up to 8 sensors can be linked with one receiver. Attaching the handhelds to the receiver can be done easily without any tools.

Handheld

Product description	Output signal	Power supply Vac; VA	Batteries	Type
ZAPP handheld	RF: 868 MHz signal	–; –	included 2 x AA Alkaline cells	**RT7070A2008**

Sensors, T7270

Product description	Output signal	Power supply Vac; VA	Batteries	Type
ZAPP room temperature sensor with setpoint adjustment, LED display, fan speed, occupancy, switching/dimming lights, operating sunblinds	RF: 868 MHz signal	–; –	included 2 x AA Alkaline cells	**T7270B2009**
ZAPP room temperature sensor with setpoint adjustment	RF: 868 MHz signal	–; –	included 2 x AA Alkaline cells	**T7270A2001**
ZAPP room temperature sensor	RF: 868 MHz signal	–; –	included 2 x AA Alkaline cells	**T7270A2019**

Receiver, W7070

Product description	Output signal	Power supply Vac; VA	Batteries	Type
ZAPP receiver and antenna	Echelon(R) LonTalk(R) protocol	24; 2	–	**W7070A2000**

FTT Termination module	**XAL-TERM**
Wallholder for RT7070A handheld	**RT70-HRD20-WALL**

Wall modules for EXCEL 5000 controllers

Room temperature sensor for Excel 10 and Excel 50..800 controllers. Models available with setpoint adjustment, occupancy extension and fan switch.

LED functions	LED on or blinking in case of bypass, LED functions programmable with Excel 20..800 controllers
Temperature element	NTC20k
Temperature range	10 ... 35 °C
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Models with setpoint potentiometer delivered with 4 setpoint wheels; white and blue, relative and absolute scale.

Setpoint knob °C	Extra setp. knob °C	Occupancy switch	Fan switch	Type
–	–	–	–	**T7460A1001**
-5 ... 5	12 ... 30	–	–	**T7460B1009**
-5 ... 5	12 ... 30	auto/bypass	–	**T7460C1007**
-5 ... 5	12 ... 30	–	auto/off/1/2/3	**T7460D1005**
-5 ... 5	12 ... 30	auto/bypass	auto/off/on	**T7460E1002**
-5 ... 5	12 ... 30	auto/bypass	auto/off/1/2/3	**T7460F1000**

LON connection board	**T7460LONJACK**
Setpoint range limiter	**T7460LIMITER**

Wall modules for EXCEL 5000 controllers, with display

Room temperature sensor with digital display, for Excel 10 and Excel 50..800 controllers. With setpoint adjustment, occupancy extension, fan speed button and on/off button. Model with R.H.-sensor.

Display functions	room temperature, setpoint temperature, occupancy status, fan speed status
Temperature element	NTC20k
Temperature range	10 ... 40 °C
Setpoint knob	-5 ... 5 °C
Extra setp. knob	12 ... 30 °C
Occupancy switch	on/off
Fan switch	configurable
Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Tool-free configuration: • number of fan speeds • relative / absolute setpoint • enable/disable space temperature display • centigrade/fahrenheit

R.H. range %rh	R.H. sensing element	R.H. output signal	Wiring terminals	Model	Type
–	–	–	7	blue knobs/wheel	**T7560A1000**
–	–	–	7	white knobs/wheel	**T7560A1026**
–	–	–	7	white knobs/wheel/ fahrenheit	**T7560A1018**
5 ... 90	capacitive	0..10V=	8	blue knobs/wheel	**T7560B1008**
5 ... 90	capacitive	0..10V=	8	white knobs/wheel	**T7560B1024**
5 ... 90	capacitive	0..10V=	8	white knobs/wheel/ fahrenheit	**T7560B1016**

LON connection board	**T7460LONJACK**
Blind cover for T7560 knobs (50 pieces)	**T7560BLINDS**

Room temperature controller 24Vac, modulating, on/off, T8078C

Digital controller for individual zone control of terminal units in fan coil and air conditioning systems, with great applications flexibility. The controller provides position control of valves or dampers (for airside control), and is capable of mounting on a switching sub-base for manual control of the fan speed.
The controller can be configured (with dipswitches) for the following applications:

- Heat / Cool changeover
- Cooling only
- Cooling + optional 2 stages On/Off Heating
- Heating only
- Heating + optional 2 stages On/Off Cooling
- Heating + Cooling Sequence Control

Control output signal	2 triacs for 1 valve open/close; 2 triacs for 2nd valve open/close or 2 on/off stages; max. load 8 VA /triac (24 V)
Control functions	dipswitch settings for: • PI Modulating (3-position) • PI On/Off • thermal actuator control using TPM (=Thermal Predictive Modulating) • proportional band • zero energy band
Temperature element	NTC100k
Temp. setpoint range	15 ... 30 °C
Optional inputs	remote sensor, remote setpoint adjustment, heat/cool changeover, energy savings contact
Housing (HxWxD)	83 mm; 83 mm; 40 mm
Protection class	IP30
Power supply	24 Vac; 1,2 VA
Additional description	• easy system check with LED and PC-output port • easy commissioning with automatic valve pulsing • periodic valve excercise and synchronisation • remote sensor auto-detect

	Type
	T8078C1009

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	F42006646 001
Wall-plate to allow mounting onto different wall boxes (5 pieces)	F42007789 001
Remote setpoint module (-5..+5 K)	Q979B1029
Remote sensor and setpoint module (-5..+5 K)	Q979C1036
Wall mounted space temperature sensor	Q979A1020
Remote sensor for duct or terminal unit mounting (1.5m cable)	T8109C1002
External pipe thermostat for automatic heat/cool changeover	S4390A1004
Fan speed switching subbase (230 V)	Q6360A1025

Plant Control — Page

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Honeywell

Programmable, universal BACnet Building Controller Excel Web

BACnet DDC controller for all HVAC control applications, and building automation functionalities. The controller can be applied for stand-alone operation, dial-up and in network systems. For all buildings.

Control software	• free programmable with CARE software • programmable with standard ModAL software modules
Hardware inputs	input modules available for: • measurement of temperature, relative humidity, pressure etc. • contact status from relays, thermostats etc.
Hardware outputs	output modules available for: • control devices like servomotors • switching devices like pumps, ventilators
Operator panels	full functional operation via Internet Browser and any standard Notebook, Laptop or PC. Access options are RS232, USB port or Ethernet.
Management applications	EBI or SymmetrE software can be applied for a central operator and all other building automation functions.
Stand-alone operation	yes
Bus system description	• standard BACnet/IP communication with other BACnet controllers and BACnet Front-Ends • standard LonWorks(R) communication with field I/O's and field devices
Transceiver type	LonWorks(R) FTT10A
Application cards	compact Flash (CF) card port for optional CF cards Type 1 and 2, in order to extend the onboard trend buffer.
Mounting	DIN rail and wall
Protection class	IP20
Type of terminals	plug-in screw terminals (LON, power, onboard I/O's), RJ45 (Ethernet, LON)
Memory back-up	goldcap capacitor for 72 hours buffer
Power supply	24 Vacdc; 8 VA
Modem connection	directly connectable
BACnet connection	directly connectable
LonWorks(R) connection	directly connectable
Additional description	Input/output modules to be connected to the DDC-controller via the LonWorks(R) bus connector. Embedded Web-server for direct Access via Internet Browser. BACnet PICS and BTL test certificate on request.

Product description	Type
Controller with 52 Network Variables	**XL1000C50**
Controller with 104 Network Variables	**XL1000C100**
Controller with 300 Network Variables	**XL1000C500**
Controller with 600 Network Variables	**XL1000C1000**

Uninterrupted power supply	**RIN-APU24-2**

HVAC controller free programmable, Excel 50

DDC controller within the EXCEL 5000 system for HVAC control applications, and building automation functionalities. The controller can be applied for stand-alone operation, dial-up and in networked systems.
For small and medium size buildings.

Control software	free programmable with CARE software
Hardware inputs	• 8 inputs for sensors NTC20k, 0..10V=, 0..20mA • 4 binary inputs for potential free contacts or 24V=
Hardware outputs	• 4 analogue outputs 0..10V= • 6 digital outputs 24Vac
Operator panels	RS232 port available for operator panel XI582 or XI882; these panels can be used for adjustment of setpoints, alarm limits, fixing in/outputs, override functions, graphic trending etc. (model XL50-MMI is already equipped with a built-in own operator panel)
Management applications	SymmetrE or EBI PC software can be applied for a central operator and all other building automation functions
Stand-alone operation	yes
Bus system description	• communication bus (C-bus) for data exchange with other EXCEL 5000 controllers and for building automation management systems (max. 30 devices per bus) • LonWorks(R) bus; for interoperation 46 Network Variables are provided
Transceiver type	LonWorks(R) FTT10A
Application cards	one removable application card for communication, application storage, operating system and local language characters for the operator panel
Mounting	cabinet (DIN) rail or cabinet front door
Protection class	IP30, IP54 with XL50-ACC3 for front door mounting
Type of terminals	screw terminals (XS50 screw terminal block)
Memory back-up	goldcap capacitor for 72 hours RAM and real-time clock buffering
Power supply	24 Vac; 10 VA
Modem connection	directly connectable via application card
C-bus connection	directly connectable via application card
LonWorks(R) connection	directly connectable via application card

Controller with accessories XS50 and XL50ACC2

Product description	Type
Controller with accessories	**XL50A**
Controller with accessories and XD50B-FC	**XL50A-UPC**
Controller with accessories and XD50B-FCL	**XL50A-UPCCBLON**
Controller with accessories and XD50B-FL	**XL50A-UPCLON**

Controller with MMI and accessories XS50 and XL50ACC2

Product description	Type
Controller with MMI and accessories	**XL50A-MMI**
Controller with MMI and accessories and XD50B-FC	**XL50A-UMMI-PC**
Controller with MMI and accessories and XD50B-FCL	**XL50A-UMMIPCCBLON**
Controller with MMI and accessories and XD50B-FL	**XL50A-UMMIPCLON**
Controller with MMI and accessories and XD50B-F	**XL50A-MMI-EP**
Controller with Cyrillic MMI and accessories	**XL50A-CY**
Controller with Chinese MMI and accessories and XD50B-F	**XL50A-CH**
Controller with Taiwanese MMI and accessories and XD50B-F-TW	**XL50A-TW**

XL50 application cards Free Programmable; with character sets: European, Cyrillic, Chinese

Product description	Type
Card with Flash-EPROM, modem	**XD50B-F**
Card with Flash-EPROM, modem, C-bus	**XD50B-FC**
Card with Flash-EPROM, modem, LON-bus	**XD50B-FL**
Card with Flash-EPROM, modem, C-bus, LON-bus	**XD50B-FCL**

XL50 application cards Free Programmable; with character set: Taiwanese

Product description	Type
Card with Flash-EPROM, modem	**XD50B-F-TW**
Card with Flash-EPROM, modem, C-bus	**XD50B-FC-TW**
Card with Flash-EPROM, modem, LON-bus	**XD50B-FL-TW**
Card with Flash-EPROM, modem, C-bus, LON-bus	**XD50B-FCL-TW**

Accessories

Rubber ring for front door mounting for XL50 (IP54)	**XL50-ACC3**

Spare accessories

Standard terminal block for XL50	**XS50**
Cabinet rail clamps (supplied with every XL50 package)	**XL50ACC2**

EXCEL 5000 operators panel, XI581/XI582

- Command and information center for EXCEL 5000 controllers. Data, such as setpoint values and time switching programs can be entered via this operator unit. Important information such as actual temperature values, control status etc. can also be displayed.
- A menu driven graphic display with 6 lines, 34 characters per line and 8 clearly marked keys make the device easy to use. The entire operation uses plain language text stored in the controller which can be freely accessed by the user. In addition, the display features a back light.
- The device can be operated at three password levels, thereby protecting the data from unauthorized access.

Additional description: The operator unit can be positioned up to 5 meters from the controller. Distances up to 1000 meters are possible, using line drivers.

Product description	Type
For controllers XC5010C and XC6010; mounting on EXCEL 5000 housing XH561	**XI581B-EU**
For all EXCEL 5000 controllers, desktop model, also suitable for wallmounting	**XI582B-EU**

Chinese character set

Product description	Type
For controllers XC5010C and XC6010; mounting on EXCEL 5000 housing XH561	**XI581B-CH**
For all EXCEL 5000 controllers, desktop model, also suitable for wallmounting	**XI582B-CH**

Taiwanese character set

Product description	Type
For controllers XC5010C and XC6010; mounting on EXCEL 5000 housing XH561	**XI581B-TW**
For all EXCEL 5000 controllers, desktop model, also suitable for wallmounting	**XI582B-TW**

Cyrillic character set

Product description	Type
For controllers XC5010C and XC6010; mounting on EXCEL 5000 housing XH561	**XI581B-CY**
For all EXCEL 5000 controllers, desktop model, also suitable for wallmounting	**XI582B-CY**

Japanese character set

Product description	Type
For controllers XC5010C and XC6010; mounting on EXCEL 5000 housing XH561	**XI581B-JP**
For all EXCEL 5000 controllers, desktop model, also suitable for wallmounting	**XI582B-JP**

Cables

Connection cable, 5 meter, from XI582 to RS232 port of any EXCEL 5000 controller	**XW582**
Connection cable, 5 meter, from XI582 to terminals of XC5010C or XL100C	**XW583**
Connection cable, 5 meter, from PC serial interface to RS232 port of any EXCEL 5000 controller	**XW585**
Connection cable, 5 meter, from XI582 to RS232 (RJ45) port of Excel 800	**XW882**

Adapters

Adapter from XW882 cable to RS232 port of Excel 50/100/500	**XW884**
Adapter from XW582 cable to B-port of Excel 600	**XW584**

DIN plugs

5-pole DIN plug female for cabinet door mounting	**DCE1**
5-pole DIN plug male	**DCE2**

HVAC controller with configurable applications, PANTHER

CentraLine controller for HVAC applications The controller can be applied for stand-alone operation, dial-up and in network systems.

Control software	application card with control software, with hundreds of different selectable applications and parameter settings
Hardware inputs	• Analog Inputs (AI) for NTC20k sensors • Digital Inputs (DI) for potential free contacts or 24 Vdc
Hardware outputs	• Analogue Outputs (AO) 0..10 Vdc • Digital Outputs (DO) 24 Vac
Management applications	ARENA / RANGER
Stand-alone operation	yes
Bus system description	• LonWorks(R) bus for data exchange with other PANTHER, or TIGER controllers, and building automation management systems with ARENA, or alarm monitoring with RANGER • models available with C-bus, for data exchange with other PANTHER or MCR200 controllers (max. 30 devices per bus) • models available with M-bus, to import heating- , cooling- or electric energy values; hot/cold water- or oil/gas volumes from M-Bus metering devices
Transceiver type	LonWorks(R) FTT10A
Application cards	with removable card for communication, application storage, operating system and local language texts for operator panel
Mounting	DIN rail or cabinet front door
Protection class	IP30, IP54 with mounting accessories (supplied)
Type of terminals	screw terminals with terminal block
Memory back-up	goldcap capacitor for 72 hours buffer
Power supply	24 Vac; 10 VA
C-bus connection	directly connectable via application card
LonWorks(R) connection	directly connectable via application card
M-bus connection	directly connectable via application card
Additional description	Use COACH software from CentraLine to select the right control software for the required installation.

Mini PANTHER controller; 4 AI, 4 DI, 2 AO, 3 DO

Product description	Type
Mini PANTHER controller with LON + C-Bus	**CLPA13LC02**
Mini PANTHER controller with LON + C-Bus + operator panel	**CLPA13LC12**
Mini PANTHER controller with LON + C-Bus + operator panel Cyrillic	**CLPA13LC22**
Mini PANTHER controller with LON + M-Bus	**CLPA13LM02**
Mini PANTHER controller with LON + M-Bus + operator panel	**CLPA13LM12**
Mini PANTHER controller with LON + M-Bus + operator panel Cyrillic	**CLPA13LM22**

PANTHER controller; 8 AI, 4 DI, 4 AO, 6 DO

Product description	Type
PANTHER controller with LON + C-Bus	CLPA21LC02
PANTHER controller with LON + C-Bus + operator panel	CLPA21LC12
PANTHER controller with LON + C-Bus + operator panel Cyrillic	CLPA21LC22
PANTHER controller with LON + M-Bus	CLPA21LM02
PANTHER controller with LON + M-Bus + operator panel	CLPA21LM12
PANTHER controller with LON + M-Bus + operator panel Cyrillic	CLPA21LM22

Accessories for M-bus PANTHER

Adapter	PW3
Adapter cable	XW586

Additional product for PANTHER controllers

External Operator panel with cable (5 m); wall/door mounting	CLMMI00N22
CentraLine Touch operator interface	CLMMI00N31
Connection cable between CL-Touch/PC and PANTHER/TIGER	XW585
Application card Free Programmable; with Flash-EPROM, modem, C-bus, LON-bus	XD50B-FCL
Rubber ring for front door mounting (IP54)	XL50-ACC3
LON connection and termination module	XAL-TERM

COACH for selection of control software

COACH for End user	CLCH2EL1
COACH for Expert End user	CLCH2EL2
COACH for Partner	CLCH2EL3
COACH for Expert Partner	CLCH2EL4

Demo kits

Panther Demo Kits

Product description	Type
Panther DEMO Kit 240V, 3 PIN Plug with controller	CLPD01240W
Panther DEMO Kit 240V, SCHUKD 2 PIN plug and controller	CLPDU02240W
Panther DEMO Kit 110V, SCHUKD 2 PIN plug and controller	CPDU01110W

HVAC controller with configurable applications, and relay outputs, TIGER

CentraLine controller with relay outputs, for HVAC applications. The controller can be applied for stand-alone operation, dial-up and in network systems.

Control software	control software embedded, with hundreds of different selectable applications and parameter settings
Hardware inputs	• Analog Inputs (AI) for NTC20k sensors, 0..10 V, 0/4..20 mA active sensors (apply GT4 signal separator!) or slow switching dry contact • Digital Inputs (DI) for potential free contacts, 24 Vdc or 24 Vac
Hardware outputs	• Analogue Outputs (AO) 0..10V= • Digital Outputs (DO) relay contact SPDT or SPST
Management applications	ARENA / RANGER
Stand-alone operation	yes
Bus system description	LonWorks(R) bus for data exchange with other TIGER, or PANTHER controllers, and building automation management systems with ARENA, or alarm monitoring with RANGER
Transceiver type	LonWorks(R) FTT10A
Mounting	DIN rail
Protection class	IP30
Type of terminals	screw terminals with terminal block
Memory back-up	goldcap capacitor for 72 hours buffer
Power supply	24 Vac; 15 VA
LonWorks(R) connection	directly connectable
Additional description	Use COACH software from CentraLine to select the right control software for the required installation.

TIGER controller; 8 AI, 14 DI, 4 AO, 12 DO (3 SPDT, 9 SPST)

Product description	Type
TIGER controller with LON	**CLTG38L01**
TIGER controller with LON + operator panel	**CLTG38L11**

Additional products for TIGER controllers

I/O expansion board, 8 AI, 14 DI, 4 AO, 12 DO (3 SPDT, 9 SPST) with DIN rail mounting clip and flat cable (350 mm). Max. 1 board/controller.	**CLTG38EXPN01**
External Operator panel with cable (5 m); wall/door mounting	**CLMMI00N22**
CentraLine Touch operator interface	**CLMMI00N31**
Connection cable between CL-Touch/PC and PANTHER/TIGER	**XW585**
LON connection and termination module	**XAL-TERM**
Signal separator	**GT4**

Additional products for CLTG38L01

External operator panel with door mounting kit and flat cable (1.5 m)	**CLTG00MMIN01**

COACH for selection of control software

COACH for End user	**CLCH2EL1**
COACH for Expert End user	**CLCH2EL2**
COACH for Partner	**CLCH2EL3**
COACH for Expert Partner	**CLCH2EL4**

Programmable universal HVAC controller, CentraLine LION

DDC controller for all HVAC control applications, and building automation functionalities. The controller can be applied for stand-alone operation, dial-up and in network systems.
For all buildings.

Control software	• free programmable with CARE software • programmable with standard ModAL software modules
Hardware inputs	Panel Bus and LON Bus input modules available for: • measurement of temperature, relative humidity, pressure etc. • contact status from relays, thermostats etc.
Hardware outputs	Panel Bus and LON Bus output modules available for: • control devices like servomotors (configuration of safety position is possible) • switching devices like pumps, ventilators
Operator panels	RS232 port available for operator panels CLMMI00N22/ CLMMI00N31; these panels can be used for adjustment of setpoints, alarm limits, fixing in/outputs, override functions etc.
Stand-alone operation	yes
Bus system description	• communication bus ("physical C-bus" or "C-bus over LON") • LonWorks(R) bus • Panel bus for communication to Panel I/O modules
Transceiver type	LonWorks(R) FTT10A
Mounting	DIN rail
Protection class	IP30
Memory back-up	goldcap capacitor for 72 hours buffer
Power supply	24 Vacdc; 5 VA
Modem connection	directly connectable
C-bus connection	directly connectable
LonWorks(R) connection	directly connectable
Panel bus connection	directly connectable

LION Plant Controller

Product description	Type
Controller	**CLLIONLC01**

Panel I/O modules, -configurable LED functions, - safety positions, - short circuit protection

Product description	Type
8 analog input module NTC10k, NTC20k, Ni1000, Pt1000, Pt3000, Balco, contact	**CLIOP821A**
8 analog output module 0..10Vdc, 3-pt, binary 0/10V	**CLIOP822A**
8 analog output module 0..10Vdc, 3-pt, binary 0/10V; with override potentiometer	**CLIOPR822A**
12 binary input module for contact or totalizer contact 20 Hz	**CLIOP823A**
6 relay output module SPDT 250V, 2(1) A, feedback	**CLIOP824A**
6 relay output module SPDT 250V, 2(1) A, feedback; with override switch	**CLIOPR824A**
3-point control output module, with override switch; for 1 actuator	**CLIOPR825A**

Sockets for modules (supplied with bridge connector and swivel label)

Product description	Type
Socket for 1 analog input or output module	**XS821-22**
Socket for 1 binary input module	**XS823**
Socket for 1 relay or 3-pt output module (supplied with additional cross connector)	**XS824-25**

Panel Mixed I/O modules, 8 AI NTC20k, 8 AO 0..10Vdc, 12 binary 15Hz, 6 relays 24V 0,5A

Product description	Type
Mixed I/O module with push-in terminals	**CLIOP830A**

Cables connecting CLLIONLC01 with:

Modem; 1,8 m, RJ45 9 pin sub-D	**XW586**
CLMMI00N22 Operator Interface; 5 m, shielded, RJ45 plug with clip	**XW882**
Laptops; 3 m, shielded, RJ45 plug with clip	**XW885**

Adapter cable for controllers with 9 pin sub-D connector

Adapter cable length 0,2 m, shielded, RJ45 - 9 pin sub-D; XW884 + XW882 (=XW582) connects CLMMI00N22 with controller; XW884 + XW885 (=XW585) connects PC with controller	**XW884**

Accessories for I/O modules

Manual disconnector module for analog/binary inputs and analog outputs	**XS812**
Manual disconnector module for relay outputs	**XS812RO**
10 auxiliary terminal blocks	**XS814**
20 cross connectors for connection of 6 relay commons	**XS815**
40 cross connectors for connection of 3 relay commons	**XS817**
10 connector bridges	**XS816**
10 swivel labels	**XAL10**

Accessories for Mixed I/O modules

10 auxiliary terminal blocks	**XS830**
10 auxiliary terminal blocks with 500 ohm resistors for current inputs	**XS831**
10 connector bridges	**XS816**
10 swivel labels	**XAL11**

Additional product forLION controllers

External Operator panel with cable (5 m); wall/door mounting	**CLMMI00N22**
CentraLine Touch operator interface	**CLMMI00N31**
LON connection and termination module	**XAL-TERM**

LON I/O modules

LON I/O modules for CentraLine controllers.

- cabinet, DIN-rail, fuse box, or wall mounting
- override switches and potentiometer operation
- LED functions configurable
- safety positions configurable
- fixed terminals
- power supply 24 Vac
- short-circuit protected

LON I/O modules

Product description	Type
8 analog input module NTC10k, NTC20k, Ni1000, Pt1000, Pt3000, Balco, contact	**CLIOL821A**
8 analog output module 0..10Vdc, 3-pt, binary 0/10V	**CLIOL822A**
8 analog output module 0..10Vdc, 3-pt, binary 0/10V; with override potentiometer	**CLIOLR822A**
12 binary input module for contact or totalizer contact 20 Hz	**CLIOL823A**
6 relay output module SPDT 250V, 2(1) A, feedback	**CLIOL824A**
6 relay output module SPDT 250V, 2(1) A, feedback; with override switch	**CLIOLR824A**

Sockets for modules (supplied with bridge connector and swivel label)

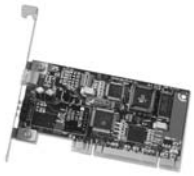
Product description	Type
Socket for 1 analog input or output module	**XS821-22**
Socket for 1 binary input module	**XS823**
Socket for 1 relay or 3-pt output module (supplied with additional cross connector)	**XS824-25**

Accessories for I/O modules

Manual disconnector module for analog/binary inputs and analog outputs	**XS812**
Manual disconnector module for relay outputs	**XS812RO**
10 auxiliary terminal blocks	**XS814**
20 cross connectors for connection of 6 relay commons	**XS815**
40 cross connectors for connection of 3 relay commons	**XS817**
10 connector bridges	**XS816**
10 swivel labels	**XAL10**

CentraLine LON Network Interfaces

Product description	Type
LON Network Interface PCC10 as PCMCIA card (LAPTOP Use) / FT-10 incl. cable 2 conductors, flying leads	**PCC10KIT**



Product description	Type
LON Network Interface PCLTA-21 as PCI card (Desktop PC use) / FT-10	**PCLTA21**

Product description	Type
Remote access network interface iLON10 (Continental Europe plug) / FT-10	**iLON10EU**
Remote access network interface iLON10 (UK plug) / FT-10	**iLON10UK**

Product description	Type
LON Network Interface U10 on USB (LAPTOP Use) / FT-10	**U10**
LON termination module	**XAL-TERM**

CentraLine External MMI

MMI with a backlit LCD screen capable of displaying West European, East European, Turkish, and Cyrillic characters. Suitable for use as a desk-top device or for installation in a cabinet door. Bus-wide access to all CentraLine plant controllers on the same bus.
Kit supplied for panel door mounting (IP54)

	Type
	CLMMI00N22

Cable

Connection cable between MMI and PANTHER/TIGER	XW582
Connection cable between MMI and LION	XW882

CentraLine Touch operator interface

CL Touch is an easy-to-operate and robust operator unit for the entire CentraLine range of plant controllers. The touch-panel operation screens allow for easy and selfexplanatory operation by fingertip or by touch-pen (supplied). User-configurable fast-access lists can contain selected datapoints, time programs, and parameters, thus permitting plantoriented and customer-oriented operation.
Features:

- color TFT graphic touch screen display 86 x 115 mm
- uses password protection mechanism from connected controllers
- local languages: English, French, Spanish, German, Swedish, Japanese, Dutch
- uniform operation screens, even with different controllers
- automatic detection and communication with connected controllers
- upgrade for existing controllers to touch-screen operation
- bus-wide operation
- Ethernet, RS232C, USB interfaces
- panel door mounting, IP65
- power supply 24Vac or 24Vdc

	Type
	CLMMI00N31

Cable

Connection cable between CL-Touch/PC and PANTHER/TIGER	XW585
Connection cable between CL-Touch/PC and LION	XW885

Spare parts

Bag with all accessories also shipped with the CL Touch	CLMMI00N31-ACC

Workstation software, ARENA / RANGER

The ARENA is a Web based LON Workstation for small and medium size systems. It allows a maximum of 4 local sites and in addition the remote access to CentraLine systems through LAN or modem. Furthermore it is possible to operate the ARENA with a browser on a client PC and this requires not further software.
Together with the configuration tool COACH and CARE, all system specific data is accessible locally and remotely. All CentraLine based control systems for e.g. room temperature, supply temperature, boiler temperature, and air humidity applications can be operated and monitored with ARENA.
The ARENA license includes a graphic editor, which can create a completely independent graphic user interface for non-technical users.

- **Lowest engineering effort** due to plug and play functionality, automatic detection of all CentraLine (LON) devices within one domain. Automatic detection of C-Bus devices with the new C-Bus interface.
- **Includes graphic editor** with library of drawing symbols for the creation of system graphics, graphic navigation, and operation pages.
- **Operation and monitoring** of 4 local and up to 100 remote systems.
- **Operation independent from remote software**. The ARENA remote function does not need extra software. Only the Microsoft(R) Internet Explorer 6.0 or higher is required on the client PC.
- **Advanced building management features:** powerful alarm and alarm routing functions (printer, e-mail, other ARENAs, history files, statistics), enhanced graphical trending with customizable display and export into MS Excel. Automatic database management with additional plugin 'scheduled export'.
- **Sophisticated user privileges**, with individual access, visibility and operation rights.
- **Openness:** LON based system. Trends data export for other energy management software suites.

Model	Type
Max. 10 controllers per local system (4 local systems), contains 1 Arena to Arena connection	**CLAR2SL10**
Max. 120 controllers per local system (4 local systems), contains 1 Arena to Arena connection	**CLAR2SL99**
Upgrade from CLAR2SL10 to CLAR2SL99	**CLAR2UL99**
C-Bus driver for Arena	**CLAR2DRV-CBUS**
Remote LON system driver	**CLAR2DRV-LONR**
Driver for unlimited number of Arena to Arena connections	**CLAR2DRV-A2A**
Arena without local site functions, without editor, without global time program, for service purpose only	**CLRANGER2**

C-Bus interfaces

Arena C-Bus/TCP/IP adapter for one C-Bus	**CLIF-CBUS1-PC**
Arena C-Bus/TCP/IP adapter for two C-Busses	**CLIF-CBUS2-PC**

HVAC and Integration controller, HAWK

The HAWK is a compact controller utilizing the Niagara^{AX} Framework$^{(R)}$ for integration of Heating, Ventilation, Air Conditioning (HVAC) systems and non-HVAC systems (e.g. Lighting) in a building. It combines integrated control, supervision, data logging, alarming, scheduling and network management functions with Internet connectivity and web serving capabilities in a small, compact platform. The HAWK makes it possible to control and manage external devices over the Internet and presents real time information to users in web-based graphical views. It facilitates efficient project planning and smart engineering opportunities for small to large size integration projects.

Control software	free programmable with COACH^{AX}
Hardware inputs	• separate I/O modules with universal inputs for: measurement of temperature, relative humidity, pressure, etc.; and contact status from relays, thermostats etc. • LON I/O modules • M2M models have integrated inputs
Hardware outputs	• separate I/O modules with 0..10 V outputs for control devices like servomotors; and relay outputs for pumps, ventilators etc. • LON I/O modules • M2M models have integrated outputs
Management applications	ARENA^{AX}
Stand-alone operation	yes
Bus system description	• all Modbus types, BACnet IP and MSTP, EIB IP, SNMP, M-bus, Z-wave, oBiX, and LON (via optional plug-in card) • communication via 2 Ethernet ports, 1 RS232, and 1 RS485 port
Application cards	2 expansion slots available for extra communication cards, M2M models have 1 expansion slot
Mounting	DIN rail or wall mounting
Type of terminals	• separate I/O modules: screw terminals • Ethernet ports: RJ-45; RS232: 9-pin D-connector, RS485: 3-way two part connector
Memory back-up	5 minutes, database 3 months
Modem connection	directly connectable

HAWK 600

Product description	Type
HAWK 660 with USB port, Java heap memory 96 MB	**CLAXHAWK660**
HAWK 650 with USB port, Java heap memory 48 MB	**CLAXHAWK650**
HAWK 640 with USB port, Java heap memory 48 MB, resource count max 1000kRU	**CLAXHAWK640**
HAWK 630 with USB port, Java heap memory 48 MB, resource count max 450kRU, drivers max 200 points (EIB/KNX 500 points)	**CLAXHAWK630**

HAWK 200

Product description	Type
HAWK 250 with Java heap memory 48 MB	**CLAXHAWK250**
HAWK 240 with Java heap memory 16 MB	**CLAXHAWK240**
HAWK 230 with Java heap memory 16 MB; max. 450kRU, 200 (EIB 500) points/network	**CLAXHAWK230**
HAWK 220 with Java heap memory 16 MB; max. 350kRU, 8 devices/network, 34 points NDIO	**CLAXHAWK220**

The HAWK M2M combines integration, integrated control, supervision, data logging, alarming scheduling and network management functions, integrated I/O, integrated power supply module and optional GPRS modem connectivity with Internet connectivity and Web serving capabilities

Product description	Type
HAWK with Java heap memory 16 MB; max. 300kRU; only Niagara/internal Driver	**CLAXHAWK216M**
HAWK with Java heap memory 16 MB; max. 300kRU; only Niagara/internal Driver; with GPRS	**CLAXHAWK216MGP**
HAWK with Java heap memory 16 MB; max. 450kRU; 200 (EIB/KNX 500) points/network	**CLAXHAWK236M**
HAWK with Java heap memory 16 MB; max. 450kRU; 200 (EIB/KNX 500) points/network; with GPRS	**CLAXHAWK236MGP**
HAWK with Java heap memory 16 MB; no license restrictions	**CLAXHAWK246M**
HAWK with Java heap memory 16 MB; no license restrictions; with GPRS	**CLAXHAWK246MGP**
HAWK with Java heap memory 48 MB; no license restrictions	**CLAXHAWK256M**
HAWK with Java heap memory 48 MB; no license restrictions; with GPRS	**CLAXHAWK256MGP**

HAWK 600 upgrades

Upgrade HAWK 630 to 640	**CLAXHAWK63UP64**
Upgrade HAWK 640 to 650	**CLAXHAWK64UP65**
Upgrade HAWK 650 to 660	**CLAXHAWK65UP66**

HAWK 200 upgrades

Upgrade HAWK 220 to 230	**CLAXHAWK22UP23**
Upgrade HAWK 230 to 240	**CLAXHAWK23UP24**
Upgrade HAWK 240 to 250	**CLAXHAWK24UP25**

HAWK M2M upgrades

Upgrade HAWK 216 to 236	**CLAXHAWK16UP36**
Upgrade HAWK 236 to 246	**CLAXHAWK36UP46**
Upgrade HAWK 246 to 256	**CLAXHAWK46UP56**

HAWK revision upgrade

Upgrade of HAWK and associated drivers, one revision upgrade	**CLAXHAWKRUP**
Upgrade of HAWK and associated drivers, two or more revision upgrade	**CLAXHAWKRUP2**

DIN-rail I/O modules; max. 4xIO16 or 2xIO16 + 1xIO34 (not for M2M)

8 universal inputs, 4 relay outputs, 4 0..10 Vdc analog output	**CLAXHAWKIO16**
16 universal inputs, 10 relay outputs, 8 0..10 Vdc analog output; note: this module includes an on-board 24 Vac/dc power supply	**CLAXHAWKIO34**

Communication cards, for expansion slots

LON adapter	**CLAXHAWKIFLON**
RS-232 adapter	**CLAXHAWKIF232**
2 x RS-485 adapter	**CLAXHAWKIF485**

Interface card GPRS (not for M2M)

GPRS adapter for HAWK 2/6 series, use one of the communication slots	**CLAXIFGPRS**
External antenna and bracket for GPRS modem	**CLAXIFGPRSACC**

Power supply for 1 HAWK module (not for M2M)

Wall adapter, input 100..240 Vac, 50/60 Hz, European plug	**CLAXWPMEU**
Wall adapter, input 100..240 Vac, 50/60 Hz, UK plug	**CLAXWPMUK**
Power supply module, input 24 Vac/dc, DIN rail mounting	**CLAXNBPPWR**

Drivers

Helvar driver	**CLAXDRHLV**
Horstmann driver	**CLAXDRHRSM**
Global Cache driver	**CLAXDRGCIR**
SMS service for HAWK	**CLAXDRSMS**
Micros Fidelio hotel room booking system Driver (IP)	**CLAXDRFIDELIO**
Flex Driver over R232 or RS485	**CLAXDRFLX**
Protec fire panel driver	**CLAXDRPRO**
Resol water heating controller driver	**CLAXDRRSL**
Table Driver	**CLAXDRTBL**

COACH software

COACH^{AX} for end users	**CLAXCOACH**
COACH^{AX} for system integrators (1 year license)	**CLAXCOACHSI**

Workstation software, ARENA AX

The ARENA^{AX} is a Web based Supervisor utilizing the Niagara^{AX} Framework$^{(R)}$ for small to big size systems. It is a high sophisticated Solution to supervise HVAC systems and non-HVAC systems (e.g. Lighting, Security, Fire) in a building. It is used in applications where multiple HAWK controllers will be networked together and systems based on TCP/IP communication standards like BACnet IP, OPC (client), Modbus TCP, EIB KNX IP, and SNMP can be directly integrated by ARENA^{AX}.
The ARENA^{AX} serves real time graphical information displays to standard web-browser clients and also provides server-level functions such as: centralized data logging, archiving, alarming, real time graphical displays, master scheduling, system-wide database management, and integration with enterprise software applications. In addition, ARENA^{AX} provides a comprehensive, graphical engineering toolset for application development.
Features:

- Provides access to alarms, logs, graphics, schedules, and configuration data with a standard web browser
- Optional direct Ethernet based driver support for BACnet IP, OPC (Client), Modbus TCP, EIB IP and SNMP; additional point blocks for each driver may be purchased in blocks of 500 for each protocol
- Java-enabled user interface (UI) which supports highly customizable dynamic graphics as well as a non-Java UI for browsers
- Supports an unlimited number of users over the Internet / Intranet with a standard web browser, depending on the host PC
- Optional Enterprise-level data archival using SQL, Oracle or DB2 database, and HTTP/HTML/XML text formats
- 'Audit Trail' of database changes, database storage and backup, global time functions, calendar, central scheduling, control, and energy management routines.
- Sophisticated alarm processing and routing, including e-mail and SMS
- Password protection and security using standard Java authentication and encryption techniques with optional security supported via an external LDAP connection
- HTML-based help system that includes comprehensive on-line system documentation
- Supports multiple HAWK stations connected to a local Ethernet network, or the Internet
- A 'Small Building System' version is available for up to ten HAWKs

Model	Type
ARENA^{AX} Supervisor Software, includes one copy Workplace AX tool and COACH^{AX}	**CLAXARENA**
ARENA^{AX} Supervisor Software Small Building System, for up to 10 HAWK	**CLAXARENASBS10**
ARENA^{AX} Supervisor Software for LINUX	**CLAXARENALINUX**
ARENA^{AX} Supervisor Software for 64 bit Windows OS	**CLAXARENAWOS64**
Alarmportal	**CLAXARENAAPC**

CL AX ARENA Drivers

BACnet IP Driver with 500 BACnet points	**CLAXDRBAC**
Additional 500 BACnet points	**CLAXDRBAC500**
OPC Driver with 500 OPC points	**CLAXDROPC**
Additional 500 OPC points	**CLAXDROPC500**
SNMP Driver with 500 SNMP points	**CLAXDRSNMP**
Additional 500 SNMP points	**CLAXDRSNMP500**
EIB IP Driver with 500 EIB points	**CLAXDREIB**
Additional 500 EIB points	**CLAXDREIB500**
Modbus TCP Driver with 500 Modbus TCP points	**CLAXDRMTCP**
Additional 500 Modbus TCP points	**CLAXDRMTCP500**
LON IP Driver with 500 LON points	**CLAXDRLONIP**
Additional 500 LON points	**CLAXDRLONIP500**
OBIX Driver for non-Niagara point connectivity with 500 OBIX points	**CLAXDROBX**
Additional 500 OBIX points	**CLAXDROBX500**
OPC Client alarm and event notification driver with 500 points	**CLAXDROPE**
Additional 500 points for OPC alarm and event notification driver	**CLAXDROPE500**
SMS service for AX Supervisor (full or SBS10)	**CLAXARENASMS**
Skype service for AX Supervisor (full or SBS10)	**CLAXARENASKYPE**

CL AX Database Drivers

Database, CSV Server Driver	**CLAXDBCSV**
Database, MS SQL Server Driver	**CLAXDBSQL**
Database, Oracle Driver	**CLAXDBORCL**
Database, DB2 Driver	**CLAXDBDB2**
Database, MySQL Driver	**CLAXDBMYSQL**
Database, Table Driver	**CLAXDBTBL**

CL ARENA AX Upgrades

Upgrade of ARENA^{AX} Small Building Supervisor to full ARENA^{AX}	**CLAXARENASBSUP**
Upgrade of ARENA^{AX} and associated drivers, one revision	**CLAXARENARUP**
Upgrade of ARENA^{AX} and associated driver, to latest revision	**CLAXARENARUP2**

Configurable controllers Page

Stand alone controllers 3-2

Honeywell

Heat/Cool OTC underfloor controller

The AQ3000 controller W6560C1005 is a configurable heating/cooling outdoor temperature compensated under-floor controller. Via a simple menu structure and the 5 buttons the control-ler can easily be configured according to the application specific settings.
The controller has a number of control forms, which are depending on the configuration and the connected sensors. The standard heating control form is the OTC, where the supply water temperature is controlled according to a heat-ing curve with the outdoor temperature. The heat and cool requests (relay contacts) and the positioning of the mixing valve (open and close relay contacts) are both controlled.
When a room sensor or thermostat is installed room com-pensation is added to the OTC control function. During cooling control the AQ3000 controller has the option to connect also a humidity sensor and to control a de-humidifier (relay contact).

	Type
	W6560C1005

Sensors

Outdoor temperature sensor NTC	AF20
Water temperature sensor, NTC, strap on pipe	VF20A
Water temperature sensor NTC, cable type	KTF20
Room R.H.- and temperature sensor	H7012B1023
Room temperature sensor	T7412A1000

Temperature controller, 1 control output, Micronik200

Digital temperature controller, LC-display, pushbuttons, setpoint potentiometer, and 1 control-output. For valve or damper control in air- or water temperature applications.

Control output signal	2 triacs (24V~, 450mA) configurable for 2-pt, 3-pt, PWM or 2/3-stage control
Control functions	main temperature control, limit control, cascade control, outside air compensation control
Main setpoint adjustment	built in setpoint potentiometer, or external potentiometer
Modes of operations	off, standby, comfort, summer/winter change-over, frost protection
Parameter settings	temperature setpoints, throttling ranges, reset time, summer/winter compensation authority, sensor calibration etc.
Analogue input functions	3 inputs for: main-, limit/cascade-, and compensation temperature sensors
Applicable sensor types	Pt1000, Balco500, NTC20k
Digital input functions	frost protection with external contact
Special input functions	occupancy- or summer/winter changeover contact and plant on/off input
Mounting	back panel, wall, DIN-rail or front door (with additional mounting frame)
Protection class	IP30, IP40 (front panel mounting)
Wiring connection	screw terminals, max. 1 x 1,5 mm^2
Power supply	24 Vac; 3 VA
Main temperature control range	0 ... 50 ^oC
Additional main temperature control range	0 ... 130 ^oC
Housing (HxWxD)	105 mm; 152 mm; 37 mm

	Type
	R7426A2006

Accessories

Front panel mounting frame	43193862-001

Temperature controller with clock, 1 control output, Micronik200

Digital temperature controller with real time clock, LC-display, pushbuttons, setpoint potentiometer, and 1 control-output.
For valve or damper control in air- or water temperature applications.

Control output signal	2 triacs (24V~, 450mA) configurable for 2-pt, 3-pt, PWM or 2/3-stage control
Plant output	1 on/off output (24V~) for plant, pump, fan etc.
Control functions	main temperature control, limit control, cascade control, outside air compensation control
Main setpoint adjustment	built in setpoint potentiometer, or external potentiometer
Modes of operations	off, night, standby, comfort, optimum start, night cycle, summer/ winter change-over, frost protection
Clock functions	yearly real time clock with 3 holiday schedules, week program with 6 switching points/day; automatic daylight saving programs
Parameter settings	temperature setpoints, throttling ranges, reset time, summer/winter compensation authority, sensor calibration etc.
Analogue input functions	3 inputs for: main-, limit/cascade-, and compensation temperature sensors
Applicable sensor types	Pt1000, Balco500, NTC20k
Digital input functions	frost protection with external contact
Special input functions	occupancy- or summer/winter changeover contact
Mounting	back panel, wall, DIN-rail or front door (with additional mounting frame)
Protection class	IP30, IP40 (front panel mounting)
Wiring connection	screw terminals, max. 1 x 1,5 mm^2
Power supply	24 Vac; 3 VA
Main temperature control range	0 ... 50 ^oC
Additional main temperature control range	0 ... 130 ^oC
Housing (HxWxD)	105 mm; 152 mm; 37 mm

	Type
	R7426A2014
Accessories	
Front panel mounting frame	**43193862-001**

Temperature controller, 3 control outputs, Micronik200

Digital temperature controller, LC-display, pushbuttons, setpoint potentiometer, and 3 control-outputs. For valve and damper control in space- and/or discharge air applications, with heating - mixed air/ energy recovery - cooling sequence control

Control output signal	Model B: 6 triacs (24V~, 450mA) configurable for 2-pt, 3-pt, PWM or 2/3/4/6/15-stage control; Model C: 3 x 0/2..10V= outputs
Control functions	cascade, outside air compensation, sequence and dehumidification control
Main setpoint adjustment	built in setpoint potentiometer, or external potentiometer
Modes of operations	off, standby, comfort, economizer, frost protection
Parameter settings	temperature setpoints, throttling ranges, reset time, summer/winter compensation authority, sensor calibration etc.
Analogue input functions	3 inputs for: main-, cascade- and compensation temperature sensors
Applicable sensor types	Pt1000, Balco500, NTC20k
Digital input functions	frost protection with external contact
Special input functions	occupancy contact; humidity deviation signal; and plant on/off input
Mounting	back panel, wall, DIN-rail or front door (with additional mounting frame)
Protection class	IP30, IP40 (front panel mounting)
Wiring connection	screw terminals, max. 1 x 1,5 mm^2
Power supply	24 Vac; 3 VA
Main temperature control range	0 ... 50 ^oC
Housing (HxWxD)	105 mm; 152 mm; 37 mm

Control output	Type
triac	**R7426B2004**
0/2..10V=	**R7426C2002**

Accessories

Front panel mounting frame	**43193862-001**

Temperature controller with clock, 3 control outputs, Micronik200

Digital temperature controller with real time clock, LC-display, pushbuttons, setpoint potentiometer, and 3 control-outputs.
For valve and damper control in space- and/or discharge air applications, with heating - mixed air/ energy recovery - cooling sequence control

Control output signal	Model B: 6 triacs (24V~, 450mA) configurable for 2-pt, 3-pt, PWM or 2/3/4/6/15-stage control; Model C: 3 x 0/2..10V= outputs
Plant output	1 on/off output (24V~) for plant, pump, fan etc.
Control functions	cascade, outside air compensation, sequence and dehumidification control
Main setpoint adjustment	built in setpoint potentiometer, or external potentiometer
Modes of operations	off, night, standby, comfort, optimum start, night cycle, economizer, frost protection
Clock functions	yearly real time clock with 3 holiday schedules, week program with 6 switching points/day; automatic daylight saving programs
Parameter settings	temperature setpoints, throttling ranges, reset time, summer/winter compensation authority, sensor calibration etc.
Analogue input functions	3 inputs for: main-, cascade- and compensation temperature sensors
Applicable sensor types	Pt1000, Balco500, NTC20k
Digital input functions	frost protection with external contact
Special input functions	occupancy contact; humidity deviation signal
Mounting	back panel, wall, DIN-rail or front door (with additional mounting frame)
Protection class	IP30, IP40 (front panel mounting)
Wiring connection	screw terminals, max. 1 x 1,5 mm^2
Power supply	24 Vac; 3 VA
Main temperature control range	0 ... 50 ^oC
Additional main temperature control range	0 ... 130 ^oC
Housing (HxWxD)	105 mm; 152 mm; 37 mm

Control output	Type
triac	**R7426B2012**
0/2..10V=	**R7426C2010**

Accessories

Front panel mounting frame	**43193862-001**

Universal input controller, 2 control outputs, Micronik200

Digital universal input controller with LC-display, pushbuttons, setpoint potentiometer, and 2 control-outputs.
For space, discharge air humidity control applications, and special applications, e.g. pressure control.

Control output signal	0/2..10V= output and main value deviation signal
Plant output	1 on/off output (24V~) for plant, pump, fan etc.
Control functions	PID main (temperature) control, limit control, cascade control, outside air compensation control
Main setpoint adjustment	built in setpoint potentiometer, or external potentiometer
Parameter settings	setpoints, throttling ranges, reset time, summer/winter compensation authority, sensor calibration etc.
Analogue input functions	2 inputs for: master and submaster or limit sensor
Applicable sensor types	transmitters within the specified input ranges 0..10 V= or 0..20 mA
Digital input functions	plant on/off with external contact or by controller with real time clock
Special input functions	compensation temperature sensor, Pt1000, Balco500, NTC20k
Mounting	back panel, wall, DIN-rail or front door (with additional mounting frame)
Protection class	IP30, IP40 (front panel mounting)
Wiring connection	screw terminals, max. 1 x 1,5 mm^2
Power supply	24 Vac; 3 VA
Main control range	0 ... 100 %
Housing (HxWxD)	105 mm; 152 mm; 37 mm

	Type
	R7426D2000
Accessories	
Front panel mounting frame	43193862-001

Actuators Page

Small linear actuators, stroke 2,5/6,5mm	**4-2**
Large linear actuators, stroke 20/38mm	**4-7**
LON linear actuators	**4-10**
Rotary valve actuators	**4-11**
Damper actuators	**4-13**

Honeywell

Small linear actuators, stroke 2,5/6,5mm

Actuator thermoelectric for zone control 2,5/6,5 mm 90 N, Smart-T

Electrical actuator on/off control, and PWM control with XL10/12 controllers. For V58xxA/C (DN15/20), V90/V100 and VS valve series. MT4 models also suitable for TRV's V300, V2000, the Therafix TRV's V2464, V2474; and for the balancing valves V5010, V5032 (in combination with adapter VA2500A001).

Protection class	IP44
Position indication	with red indicator
End switch function/capacity	SPST, capacity 5(3) A; contact closes at power on
Stem force	90 N
Control input signal	2-pt
Additional description	Actuator supplied with mounting clip (MT-CLIP) and M30 x 1,5 adapter (MT-ADAPT-HW). • Other adapters on request. • Other cable length, or special connectors, on request. • 24 Vac models also suitable for 24 Vdc. • Effective stroke for Honeywell valves 2,5/6,5 mm; maximum stroke 4/8 mm.

4

2,5 mm; 90 N

Power supply Vac; VA	Power loss action	Stroke mm	End switches	Runtime min	Initial current A	Cable length m	Type
24; 3	stem retracts	2,5	–	4,0	0,7	1	**MT4-024-NO**
24; 3	stem retracts	2,5	–	4,0	0,7	2,5	**MT4-024-NO-2.5M**
24; 2	stem retracts	2,5	–	6,0	0,2	1	**MT4-024LC-NO**
24; 3	stem retracts	2,5	1	4,0	0,7	1	**MT4-024S-NO**
24; 3	stem extends	2,5	–	4,0	0,7	1	**MT4-024-NC**
24; 3	stem extends	2,5	–	4,0	0,7	2,5	**MT4-024-NC-2.5M**
24; 2	stem extends	2,5	–	6,0	0,2	1	**MT4-024LC-NC**
24; 3	stem extends	2,5	1	4,0	0,7	1	**MT4-024S-NC**
230; 3	stem retracts	2,5	–	2,5	0,6	1	**MT4-230-NO**
230; 3	stem retracts	2,5	–	2,5	0,6	2,5	**MT4-230-NO-2.5M**
230; 2	stem retracts	2,5	–	3,5	0,4	1	**MT4-230LC-NO**
230; 3	stem retracts	2,5	1	2,5	0,6	1	**MT4-230S-NO**
230; 3	stem extends	2,5	–	2,5	0,6	1	**MT4-230-NC**
230; 3	stem extends	2,5	–	2,5	0,6	2,5	**MT4-230-NC-2.5M**
230; 2	stem extends	2,5	–	3,5	0,4	1	**MT4-230LC-NC**
230; 3	stem extends	2,5	1	2,5	0,6	1	**MT4-230S-NC**

6,5 mm; 90 N

Power supply Vac; VA	Power loss action	Stroke mm	End switches	Runtime min	Initial current A	Cable length m	Type
24; 3	stem retracts	6,5	–	6,0	0,7	1	**MT8-024-NO**
24; 3	stem retracts	6,5	–	6,0	0,7	2,5	**MT8-024-NO-2.5M**
24; 2	stem retracts	6,5	–	7,5	0,2	1	**MT8-024LC-NO**
24; 3	stem retracts	6,5	1	6,0	0,7	1	**MT8-024S-NO**
24; 3	stem extends	6,5	–	6,0	0,7	1	**MT8-024-NC**
24; 3	stem extends	6,5	–	6,0	0,7	2,5	**MT8-024-NC-2.5M**
24; 2	stem extends	6,5	–	7,5	0,2	1	**MT8-024LC-NC**
24; 3	stem extends	6,5	1	6,0	0,7	1	**MT8-024S-NC**
230; 3	stem retracts	6,5	–	3,5	0,6	1	**MT8-230-NO**
230; 3	stem retracts	6,5	–	3,5	0,6	2,5	**MT8-230-NO-2.5M**
230; 2	stem retracts	6,5	–	5,5	0,4	1	**MT8-230LC-NO**
230; 3	stem retracts	6,5	1	3,5	0,6	1	**MT8-230S-NO**
230; 3	stem extends	6,5	–	3,5	0,6	1	**MT8-230-NC**
230; 3	stem extends	6,5	–	3,5	0,6	2,5	**MT8-230-NC-2.5M**
230; 2	stem extends	6,5	–	5,5	0,4	1	**MT8-230LC-NC**
230; 3	stem extends	6,5	1	3,5	0,6	1	**MT8-230S-NC**

Accessories

Extra mounting clips; 10 units	**MT-CLIP**

Plug-in cable (not for models with end switch)

Cable 1,5 meter; 10 units	**MT-CABLE-1.5M**
Cable 2,5 meter; 10 units	**MT-CABLE-2.5M**
Cable 5 meter; 10 units	**MT-CABLE-5M**
Cable 10 meter; 10 units	**MT-CABLE-10M**

Adapters

Extra mounting adapters M30 x 1,5; 10 units	**MT-ADAPT-HW**
Mounting adapter for Herz/Polytherm valves; 10 units	**MT-ADAPT-HP**
Danfoss-RA adapter; 10 units	**EVA10RA**
Mounting adapter for Velta -Compact Manifold	**HCA1VEL**
Mounting adapter for Giacomini; 5 units	**R453HY002**

Actuator thermoelectric 0..10V for terminal unit/radiator valves, 2,5 mm 90 N, MT010

Electrical actuator for valve series: V58xxA/C (DN15-20), V90, V100, V300, V2000, V2464, V2474, VSO. For thermostatic radiator valves with connection size: M30 x 1,5.

Protection class	IP54
Stem force	90 N
Power supply	24 Vac; 2 VA
Control input signal	0..10V=
Stroke	2,5 mm
Power loss action	stem extends
Runtime	75 s
Initial current	0,25 A
Additional description	Effective stroke for Honeywell valves 2,5 mm; maximum stroke 3,5 mm.

2,5 mm; 90 N

Cable length m	Type
1	**MT010-N**
3	**MT010-3MN**

Small linear actuators, stroke 2,5/6,5mm

Actuator 3-pt for terminal unit/radiator valves, 2,5 mm 90 N, M7410A

Electrical actuator floating control, for valve series: V135, V136, V58..A4, V58..C4, VSO.

Protection class	IP43
Position indication	with red indicator
Stem force	90 N
Power supply	24 Vac; 0,7 VA
Control input signal	3-pt
Stroke	2,5 mm
Runtime	57 s
Cable length	0,9 m
Additional description	Manual operation with valve cap.

2,5 mm; 90 N

	Type
	M7410A1001

Accessories

Adapter for Danfoss RA2000	**IRA-AD**

Fast motoric actuator for terminal unit/radiator valves, 6,5 mm 90 N, M5410

Electrical actuator on/off control, for valve series VS, V58.. DN15/20 and V100/V2000 TRV-series.

Protection class	IP54
Stem force	90 N
Control input signal	2-pt
Stroke	6,5 mm
Power loss action	stem retracts
Runtime	3,6/16 s
Cable length	1,5 m
Additional description	Manual operation with valve cap.

6,5 mm; 90 N

Power supply Vac; VA	Type
24; 8	**M5410C1001**
230; 15	**M5410L1001**

Actuator 3-pt for zone control, 6,5 mm 180/300 N, M6410/M7410

Electrical actuator floating control, for valve series: V5822, V5823, V5832, V5833, VSM. And also for V5077B/V5078B valve series (with adapter).

Protection class	IP43/IP42
Position indication	with red indicator
End switch function/capacity	SPDT; capacity 1 A inductive, 5 A resistive
Control input signal	3-pt
Stroke	6,5 mm
Runtime	150 s
Cable length	1,5 m
Additional description	For M7410-models, the valve cap can be used for manual adjustment. For models with 2 end switches, the 2nd switch is adjustable.

Small linear actuators, stroke 2,5/6,5mm

6,5 mm; 180 N

Stem force N	Power supply Vac; VA	Manual operation	End switches	Type
180	24; 0,7	–	–	**M7410C1007**
180	24; 0,7	•	–	**M6410C2023**
180	24; 0,7	•	2	**M6410C4029**
180	230; 7	•	–	**M6410L2023**
180	230; 7	•	2	**M6410L4029**

6,5 mm; 300 N

Stem force N	Power supply Vac; VA	Manual operation	End switches	Type
300	24; 0,7	–	–	**M7410C1015**
300	24; 0,7	•	–	**M6410C2031**
300	24; 0,7	•	2	**M6410C4037**
300	230; 7	•	–	**M6410L2031**
300	230; 7	•	2	**M6410L4037**

Accessories

Adapter for valve series V5077B/V5078B	**0903403**

Actuator 0/2..10V for zone control, 6,5 mm 180/300 N, M7410E

Electrical actuator modulating control, for valve series: V5822, V5823, V5832, V5833, VSM.

Protection class	IP42
Position indication	with red indicator
End switch function/capacity	SPDT, capacity 1A inductive, 5A resistive
Power supply	24 Vac; 1,4 VA
Control input signal	0/2..10V=
Stroke	6,5 mm
Runtime	150 s
Cable length	1,5 m
Additional description	The control action is reversable. For M7410E1..-models, the valve cap can be used for manual adjustment. For models with 2 end switches, the 2nd switch is adjustable.

6,5 mm; 180 N

Stem force N	Manual operation	End switches	Type
180	–	–	**M7410E1002**
180	•	–	**M7410E2026**
180	•	2	**M7410E4022**

6,5 mm; 300 N

Stem force N	Manual operation	End switches	Type
300	–	–	**M7410E1028**
300	•	–	**M7410E2034**
300	•	2	**M7410E4030**

Small linear actuators, stroke 2,5/6,5mm

Actuator 0/2..10V for district heating, DHWS, 6,5 mm 400 N, ML7430/ML7435

Electrical actuator modulating control, for valve series: V5825B. Also suitable for V5832B/V5833A-series (DN25..40).

Protection class	IP54
Stem force	400 N
Control input signal	0/2..10V=
Stroke	6,5 mm
Additional description	For ML7435E1004: approved according DIN EN 14597 in combination with V5825B.

6,5 mm; 400 N

Power supply Vac; VA	Power loss action	Manual operation	Runtime s	Spring return	**Type**
24; 5	–	•	15	–	**ML7430E1005**
24; 10	stem retracts	–	60	•	**ML7435E1004**

Actuator 3-pt for district heating, DHWS, spring return, 6,5 mm 400 N, ML6435

Electrical actuator floating control, for valve series: V5825B. Also suitable for V5832B/V5833A-series (DN25..40)

Protection class	IP54
Stem force	400 N
Control input signal	3-pt
Stroke	6,5 mm
Power loss action	stem retracts
Runtime	60 s
Spring return	yes
Additional description	Approved according DIN EN 14597 in combination with V5825B.

6,5 mm; 400 N

Power supply Vac; VA	**Type**
24; 10	**ML6435B1008**
230; 10	**ML6435B1016**

Actuator 3-pt, 20 mm 600 N, ML6420/ML6425

Electrical actuator floating control, for valve series: V5011, V5013, V5016A, V5025, V5049, V5050, V5328, V5329.

Protection class	IP54
Position indication	scale plate
Position feedback	optional
End switches	optional
Stem force	600 N
Control input signal	3-pt
Stroke	20 mm
Additional description	For ML6425-models: approved according DIN EN 14597 in combination with V5016A/V5025A/V5328A/V5049A.

20 mm; 600 N

Power supply Vac; VA	Power loss action	Manual operation	Runtime min	Spring return	Type
24; 4	–	•	1,0	–	**ML6420A3007**
24; 4	–	–	1,0	–	**ML6420A3072**
24; 6	–	•	0,5	–	**ML6420A3023**
230; 6,5	–	•	1,0	–	**ML6420A3015**
230; 6,5	–	•	0,5	–	**ML6420A3031**

20 mm; 600 N, Spring return

Power supply Vac; VA	Power loss action	Manual operation	Runtime min	Spring return	Type
24; 11	stem extends	•	1,8	•	**ML6425A3006**
24; 11	stem retracts	•	1,8	•	**ML6425B3005**
230; 12	stem extends	•	1,8	•	**ML6425A3014**
230; 12	stem retracts	•	1,8	•	**ML6425B3021**

Accessories

Dual end switches SPDT, adjustable (250 V~, 10 A)	**43191680-005**
Feedback potentiometer 10 kohm, operating range	**43191679-011**
Feedback potentiometer 220 ohm operating range	**43191679-012**

High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	**43196000-001**
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/V5329A DN40..80	**43196000-002**

Large linear actuators, stroke 20/38mm

Actuator 0/2..10V, 20 mm 600 N, ML7420/ML7425

Electrical actuator modulating control, for valve series: V5011, V5013, V5016A, V5025, V5049, V5050, V5328, V5329.

Protection class	IP54
Position indication	scale plate
Stem position at control signal loss	adjustable
End switches	optional
Stem force	600 N
Stroke	20 mm
Additional description	The control action is reversable. For ML7425-models: approved according DIN EN 14597 in combination with V5016A/V5025A/ V5328A/V5049A.

20 mm; 600 N

Power supply Vac; VA	Control input signal	Power loss action	Manual operation	Runtime min	Spring return	Position feedback	Type
24; 5	0/2..10V=	–	•	1,0	–	2..10V=	**ML7420A6009**
24; 5	2..10V=	–	–	1,0	–	–	**ML7420A6025**
24; 7	0/2..10V=	–	•	0,5	–	2..10V=	**ML7420A6017**

20 mm; 600 N, Spring return

Power supply Vac; VA	Control input signal	Power loss action	Manual operation	Runtime min	Spring return	Position feedback	Type
24; 12	0/2..10V=	stem extends	•	1,8	•	2..10V=	**ML7425A6008**
24; 12	0/2..10V=	stem retracts	•	1,8	•	2..10V=	**ML7425B6007**

Accessories

Auxiliary switch (250 V~, 10 A)	**43191680-205**

High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	**43196000-001**
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/ V5329A DN40..80	**43196000-002**

Actuator 3-pt, 20/38 mm 1800 N, ML6421

Electrical actuator floating control, for valve series: V5011, V5013, V5015, V5016, V5025, V5049, V5050, V5328, V5329.

Protection class	IP54
Position indication	scale plate on the yoke
End switches	optional
Stem force	1800 N
Control input signal	3-pt
Manual operation	yes

20 mm; 1800 N

Power supply Vac; VA	Stroke mm	Runtime min	Position feedback	Type
24; 13	20	1,9	optional	**ML6421A3005**
230; 11	20	1,9	–	**ML6421A3013**

Large linear actuators, stroke 20/38mm

38 mm; 1800 N

Power supply Vac; VA	Stroke mm	Runtime min	Position feedback	Type
24; 13	38	3,5	optional	**ML6421B3004**
230; 11	38	3,5	–	**ML6421B3012**

Accessories

Dual end switches SPDT, adjustable (250 V~, 10 A)	**43191680-002**
Single feedback potentiometer 220/135 ohm operating range, for 20 mm models	**43191679-001**
Single feedback potentiometer 10 kohm operating range, for 20 mm models	**43191679-007**
Single feedback potentiometer 220/135 ohm operating range, for 38 mm models	**43191679-002**
Single feedback potentiometer 10 kohm operating range, for 38 mm models	**43191679-008**

High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	**43196000-001**
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/ V5329A DN40..80	**43196000-002**
V5015A/V5016A/V5025A/V5049A/V5050A/B/V5328A 38 mm	**43196000-038**

Actuator 0/2..10V, 20/38 mm 1800 N, ML7421

Electrical actuator modulating control, for valve series: V5011, V5013, V5015, V5016, V5025, V5049, V5050, V5328, V5329.

Protection class	IP54
Position indication	scale plate
Stem position at control signal loss	selectable: closed, half open, open
Position feedback	2..10V=
End switches	optional
Stem force	1800 N
Power supply	24 Vac; 12 VA
Control input signal	0/2..10V=; 0/4..20mA
Manual operation	yes

20 mm; 1800 N

Stroke mm	Runtime min	Type
20	1,9	**ML7421A3004**

38 mm; 1800 N

Stroke mm	Runtime min	Type
38	3,5	**ML7421B3003**

Accessories

Dual end switches SPDT, adjustable (250 V~, 10 A)	**43191680-002**

High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	**43196000-001**
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/ V5329A DN40..80	**43196000-002**
V5015A/V5016A/V5025A/V5049A/V5050A/B/V5328A 38 mm	**43196000-038**

Actuator + PI-controller LON for radiator valves/zone control, 2,5/6,5 mm 90/180/300 N, M7410G

Electrical actuator with LON input signal for the following valve types:

- 2,5 mm stroke: V100 (thermostatic valves), V58..A4, V58..C4, VSO -series
- 6,5 mm stroke: V5822, V5823, V5832, V5833, V5825, VSM -series

Protection class	IP42
Position indication	with red indicator
LonMark(R) profile	input SNVT percent 0-100%; for actuators with PI-control object: open loop actuator object type 3, controller object type 20000
Transceiver type	FTT 10A
Power supply	24 Vac; 1,4 VA
Control input signal	LON
Cable length	1,5 m
PI control object	no
Additional description	Contact input available for override function fully open or closed. Manual operation with valve cap. Configurable parameters for direct/ reverse acting. LED-indication for servicing.

2,5 mm; 90 N

Stem force	Stroke	Runtime	Type
N	mm	s	
90	2,5	53	**M7410G1008**

6,5 mm; 180 N

Stem force	Stroke	Runtime	Type
N	mm	s	
180	6,5	150	**M7410G1016**

6,5 mm; 300 N

Stem force	Stroke	Runtime	Type
N	mm	s	
300	6,5	150	**M7410G1024**

Compact Line Rotary Valve Actuator

Electrical actuator for valve series V5433A/G, V5442A/G.

Protection class	IP44
End switch function/capacity	SPST; capacity 1A inductive, 3 A resistive
Torque	7 Nm
Control input signal	3-pt
Angle of rotation	90 °
Manual operation	yes
Runtime	100 s
Cable length	1,5 m
Additional description	Manual operation by declutch of gear.

Power supply Vac; VA	End switches	Type
24; 3	–	**M6063A1003**
24; 3	2	**M6063A4007**
230; 3	–	**M6063L1009**
230; 3	2	**M6063L4003**

Linkage of M6063L as replacement for M676A,C	**075041061**

Standard Line Rotary Valve Actuator

Electrical actuator for valve series V5421, DRG, ZR.

Protection class	IP54
Position indication	reversable scale plate
Angle of rotation	90 °
Manual operation	yes
Additional description	Manual operation by declutch of gear.

Floating control

Torque Nm	Power supply Vac; VA	Control input signal	Runtime min	Position feedback	End switches	Type
10	24; 3,5	3-pt	1,5	–	optional	**M6061A1013**
20	24; 3,5	3-pt	1,6	–	optional	**M6061A1021**
30	24; 3,5	3-pt	2,3	–	optional	**M6061A1039**
40	24; 3,5	3-pt	3,5	–	optional	**M6061A1047**
10	230; 3,5	3-pt	1,5	–	optional	**M6061L1019**
20	230; 3,5	3-pt	1,6	–	optional	**M6061L1027**
30	230; 3,5	3-pt	2,3	optional	optional	**M6061L1035**
40	230; 3,5	3-pt	3,5	–	optional	**M6061L1043**

Rotary valve actuators

Modulating control

Torque Nm	Power supply Vac; VA	Control input signal	Runtime min	Position feedback	End switches	Type
10	24; 2,4	0/2..10V=	1,5	optional	–	**M7061E1012**
20	24; 2,4	0/2..10V=	3,0	optional	–	**M7061E1020**

Accessories for floating control motors

Feedback potentiometer 10 kohm, only for M6061L1035	**VMP10-90**
Auxiliary switch package	**VMS2**

Accessories for modulating control motors

Feedbacksignal of position 0..10 V	**VMU1**

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Actuator for butterfly valve V5421B1090

Protection class	IP54
Power supply	230 Vac; 7 VA
Control input signal	3-pt
Built in rotation limiter	no
Manual operation	yes
End switches	optional
Runtime	150 s
Torque	40 Nm

	Type
	M6422L1003

Optional accessories

End switch	**AS2**

Damper actuator 5/10 Nm, SmartAct

Direct coupled actuators for air dampers, ventilation flaps, louvers and VAV-units.

Protection class	IP54
End switch function/capacity	SPDT switch 230 V, 5(3) A for models with end switch
Shaft mounting	for round shafts 8..16 mm; square shafts 6..13 mm
Built in rotation limiter	yes
Manual operation	yes
Position feedback	optional
Additional description	• removable wiring box for direct wiring to and from controller • rotation direction selectable by switch • adjustable mechanical end limits included • 24 Vac models also suitable for 24 Vdc

For damper area of 1 square meter

Power supply Vac; VA	Control input signal	End switches	Runtime s;50Hz	Torque Nm	Damper area m^2	Type
24; 6	2/3-pt	optional	110	5	1	**N0524**
24; 6	2/3-pt	2	110	5	1	**N0524-SW2**
230; 6	2-pt	optional	max. 110	5	1	**N05230-2POS**
24; 6	0/2..10V=;2/3-pt	optional	90/110	5	1	**N05010**
24; 6	0/2..10V=;2/3-pt	2	90/110	5	1	**N05010-SW2**

For damper area of 2 square meters

Power supply Vac; VA	Control input signal	End switches	Runtime s;50Hz	Torque Nm	Damper area m^2	Type
24; 6	2/3-pt	optional	110	10	2	**N1024**
24; 6	2/3-pt	2	110	10	2	**N1024-SW2**
230; 6	2-pt	optional	max. 140	10	2	**N10230-2POS**
24; 6	0/2..10V=;2/3-pt	optional	90/110	10	2	**N10010**
24; 6	0/2..10V=;2/3-pt	2	90/110	10	2	**N10010-SW2**

Optional accessories

Auxilliary switch kit, with 2 SPDT freely adjustable switches, IP54, cable 1 m	**SSW2-1M**
Potentiometer kit 10 kohm, IP54, cable 1 m	**SP10K-1M**

Damper actuator 20/34 Nm, SmartAct

Direct-coupled actuator with self-centering shaft adapter.
For air dampers, air handlers, ventilation flaps, louvers and VAV-units.

Protection class	IP54
Position indication	rotational angle scales 0..90°, 90..0°
End switch function/capacity	SPDT switch 230V, 5 (3) A for models with end switch
Shaft mounting	for round shafts 10..27 mm; square shafts 10..18 mm
Manual operation	yes
Additional description	• Rotation direction selectable by switch. • When power is removed, the actuator remains in position. • Removable wiring box. • Actuator supplied with complete package mounting parts. • For modulating control models: Control input signal can be voltage or current. • For modulating control models: Autoadapt dipswitch. With this function the full span of the control input signal will be used for the applicable angle or rotation.

For damper area of 4 square meters

Power supply Vac; VA	Control input signal	Built in rotation limiter	End switches	Position feedback	Runtime s	Torque Nm	Damper area m^2	Type
24; 6	2/3-pt	•	optional	–	110	20	4	**N2024**
24; 6	2/3-pt	•	2	–	110	20	4	**N2024-SW2**
230; 6	2/3-pt	•	optional	–	110	20	4	**N20230**
230; 6	2/3-pt	•	2	–	110	20	4	**N20230-SW2**
24; 6	0/2..10V=	•	optional	0/2..10V=	95	20	4	**N20010**
24; 6	0/2..10V=	•	2	0/2..10V=	95	20	4	**N20010-SW2**

For damper area of 6 square meters

Power supply Vac; VA	Control input signal	Built in rotation limiter	End switches	Position feedback	Runtime s	Torque Nm	Damper area m^2	Type
24; 7	2/3-pt	–	optional	–	110	34	6	**N3424**
230; 7	2/3-pt	–	optional	–	110	34	6	**N34230**
24; 8	0/2..10V=	–	optional	0/2..10V=	95	34	6	**N34010**

Optional accessories

End switch kit, with 2 SPDT freely adjustable end-switches	**SW2**

Damper actuator 3/5 Nm, SmartAct springreturn

Direct-coupled actuator with self-centering shaft adapter.
For the operation of quarter-turn air dampers in safety related applications requiring springreturn fail-safe operation (e.g. frost protection).

Protection class	IP54
Position indication	rotational angle scales 0..90°, 90..0°
End switch function/capacity	models with 1 SPDT switch 250 V, 8 (5) A; adjustable setting between 0° and 95°
Shaft mounting	for round shafts 9..16 mm; square shafts 6..13 mm
Spring return	yes
Manual operation	no
Spring return timing	25 s
Additional description	• Rotation direction selectable by flipping the actuator 180° around its vertical axis. • Actuator supplied with complete package mounting parts. • Actuators come with detachable wiring box. • Durable plastic housing with built-in mechanical end-limits.

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Power supply Vac; VA	Control input signal	End switches	Position feedback	Runtime s;50Hz	Torque Nm	Damper area m^2	**Type**
24; 7	2-pt	–	–	45	3	0,6	**S0324-2POS**
24; 7	2-pt	1	–	45	3	0,6	**S0324-2POS-SW1**
230; 13	2-pt	–	–	45	3	0,6	**S03230-2POS**
230; 13	2-pt	1	–	45	3	0,6	**S03230-2POS-SW1**
24; 7	0/2..10V=;3-pt	–	0..10V=	90	3	0,6	**S03010**
24; 7	0/2..10V=;3-pt	1	0..10V=	90	3	0,6	**S03010-SW1**

Power supply Vac; VA	Control input signal	End switches	Position feedback	Runtime s;50Hz	Torque Nm	Damper area m^2	**Type**
24; 8	2-pt	–	–	45	5	1	**S0524-2POS**
24; 8	2-pt	1	–	45	5	1	**S0524-2POS-SW1**
230; 14	2-pt	–	–	45	5	1	**S05230-2POS**
230; 14	2-pt	1	–	45	5	1	**S05230-2POS-SW1**
24; 8	0/2..10V=;3-pt	–	0..10V=	90	5	1	**S05010**
24; 8	0/2..10V=;3-pt	1	0..10V=	90	5	1	**S05010-SW1**

Damper actuator 10/20 Nm, SmartAct springreturn

Direct-coupled actuator with self-centering shaft adapter.
For the operation of quarter-turn air dampers in safety related applications requiring springreturn fail-safe operation (e.g. frost protection).

Protection class	IP54
Position indication	rotational angle scales 0..90°, 90..0°
End switch function/capacity	models with 2 SPDT switches 250 V, 3 (1,5) A; fixed setting at 7° and 85°
Shaft mounting	for round shafts 10..27 mm; square shafts 13..19 mm
Spring return	yes
Manual operation	yes
Spring return timing	20 s
Additional description	• Rotation direction selectable by flipping the actuator 180° around its vertical axis. • Actuator supplied with complete package mounting parts. • Autoadapt dipswitch. With this function the full span of the control input signal will be used for the applicable angle or rotation. • Actuators come with detachable wiring box. • Actuator can be locked and manually wound.

Power supply Vac; VA	Control input signal	End switches	Position feedback	Runtime s;50Hz	Torque Nm	Damper area m^2	Type
24; 8/30	2-pt	optional	–	45	10	1,5	**S1024-2POS**
24; 8/30	2-pt	2	–	45	10	1,5	**S1024-2POS-SW2**
230; 13/45	2-pt	optional	–	45	10	1,5	**S10230-2POS/U**
230; 13/45	2-pt	2	–	45	10	1,5	**S10230-2POS-SW2**
24; 5/14	0/2..10V=;3-pt	optional	0..10V=	90	10	1,5	**S10010**
24; 5/14	0/2..10V=;3-pt	2	0..10V=	90	10	1,5	**S10010-SW2/U**

Power supply Vac; VA	Control input signal	End switches	Position feedback	Runtime s;50Hz	Torque Nm	Damper area m^2	Type
24; 8/40	2-pt	optional	–	45	20	4,6	**S2024-2POS**
24; 8/40	2-pt	2	–	45	20	4,6	**S2024-2POS-SW2**
230; 13/60	2-pt	optional	–	45	20	4,6	**S20230-2POS**
230; 13/60	2-pt	2	–	45	20	4,6	**S20230-2POS-SW2/U**
24; 5/16	0/2..10V=;3-pt	optional	0..10V=	90	20	4,6	**S20010**
24; 5/16	0/2..10V=;3-pt	2	0..10V=	90	20	4,6	**S20010-SW2**

Optional accessories

End switch kit, with 2 SPDT freely adjustable end-switches	**SW2**

Valves linear

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3-way linear valves, stroke 20/38mm	5-30

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Honeywell

2-way linear valves, stroke 2,5/6,5mm

Two-way control valve PN16, conical sealing DN15/20, V5822A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5822A
Valve type	2-way
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem up
Media temp.	2 ... 120 °C
Static pressure	PN16
Port connection type	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types).

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	180	–	2,5	on/off	**V5822A4000**
20	1 1/8" x 14	2,5	50	–	2,5	on/off	**V5822A4018**

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,16	600	1600	6,5	mod.equal%	**V5822A1006**
15	G1/2	0,25	600	1600	6,5	mod.equal%	**V5822A1014**
15	G1/2	0,4	600	1600	6,5	mod.equal%	**V5822A1022**
15	G1/2	0,63	600	1600	6,5	mod.equal%	**V5822A1030**
15	G1/2	1	180	1200	6,5	mod.equal%	**V5822A1048**
15	G1/2	1,6	180	1200	6,5	mod.equal%	**V5822A1055**
20	1 1/8" x 14	2,5	50	400	6,5	mod.equal%	**V5822A1063**
20	1 1/8" x 14	4	50	400	6,5	mod.equal%	**V5822A1071**

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	**ACN-15C**
Compression fitting for DN20 valve, pipe size 22 mm	**ACN-20C**
Soldering fitting for DN15 valve, pipe size 12 mm	**ACN-15S**
Soldering fitting for DN20 valve, pipe size 15 mm	**ACN-20S**
External threaded fitting for DN15 valve, pipe size 3/8"	**ACN-15T**
External threaded fitting for DN20 valve, pipe size 1/2"	**ACN-20T**
Service tool to clean/replace inserts	**WV108**
Brush for WV108	**WV108B**

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	0..10V=	24; 2	valve closed	–	–	75 s	1	**MT010-N**
	0..10V=	24; 2	valve closed	–	–	75 s	3	**MT010-3MN**
	2-pt	24; 3	valve open	–	–	4,0 min	1	**MT4-024-NO**
	2-pt	24; 3	valve open	–	–	4,0 min	2,5	**MT4-024-NO-2.5M**
	2-pt	24; 2	valve open	–	–	6,0 min	1	**MT4-024LC-NO**
	2-pt	24; 3	valve open	–	1	4,0 min	1	**MT4-024S-NO**
	2-pt	24; 3	valve closed	–	–	4,0 min	1	**MT4-024-NC**
	2-pt	24; 3	valve closed	–	–	4,0 min	2,5	**MT4-024-NC-2.5M**
	2-pt	24; 2	valve closed	–	–	6,0 min	1	**MT4-024LC-NC**
	2-pt	24; 3	valve closed	–	1	4,0 min	1	**MT4-024S-NC**
	2-pt	230; 3	valve open	–	–	2,5 min	1	**MT4-230-NO**
	2-pt	230; 3	valve open	–	–	2,5 min	2,5	**MT4-230-NO-2.5M**
	2-pt	230; 2	valve open	–	–	3,5 min	1	**MT4-230LC-NO**
	2-pt	230; 3	valve open	–	1	2,5 min	1	**MT4-230S-NO**
	2-pt	230; 3	valve closed	–	–	2,5 min	1	**MT4-230-NC**
	2-pt	230; 3	valve closed	–	–	2,5 min	2,5	**MT4-230-NC-2.5M**
	2-pt	230; 2	valve closed	–	–	3,5 min	1	**MT4-230LC-NC**
	2-pt	230; 3	valve closed	–	1	2,5 min	1	**MT4-230S-NC**
	3-pt	24; 0,7	–	–	–	57 s	0,9	**M7410A1001**
	LON	24; 1,4	–	–	–	53 s	1,5	**M7410G1008**
6,5 mm; 90 N	2-pt	24; 8	valve open	–	–	3,6/16 s	1,5	**M5410C1001**
	2-pt	24; 3	valve open	–	–	6,0 min	1	**MT8-024-NO**
	2-pt	24; 3	valve open	–	–	6,0 min	2,5	**MT8-024-NO-2.5M**
	2-pt	24; 2	valve open	–	–	7,5 min	1	**MT8-024LC-NO**
	2-pt	24; 3	valve open	–	1	6,0 min	1	**MT8-024S-NO**
	2-pt	24; 3	valve closed	–	–	6,0 min	1	**MT8-024-NC**
	2-pt	24; 3	valve closed	–	–	6,0 min	2,5	**MT8-024-NC-2.5M**
	2-pt	24; 2	valve closed	–	–	7,5 min	1	**MT8-024LC-NC**
	2-pt	24; 3	valve closed	–	1	6,0 min	1	**MT8-024S-NC**
	2-pt	230; 15	valve open	–	–	3,6/16 s	1,5	**M5410L1001**
	2-pt	230; 3	valve open	–	–	3,5 min	1	**MT8-230-NO**
	2-pt	230; 3	valve open	–	–	3,5 min	2,5	**MT8-230-NO-2.5M**
	2-pt	230; 2	valve open	–	–	5,5 min	1	**MT8-230LC-NO**
	2-pt	230; 3	valve open	–	1	3,5 min	1	**MT8-230S-NO**
	2-pt	230; 3	valve closed	–	–	3,5 min	1	**MT8-230-NC**
	2-pt	230; 3	valve closed	–	–	3,5 min	2,5	**MT8-230-NC-2.5M**
	2-pt	230; 2	valve closed	–	–	5,5 min	1	**MT8-230LC-NC**
	2-pt	230; 3	valve closed	–	1	3,5 min	1	**MT8-230S-NC**
6,5 mm; 180 N	0/2..10V=	24; 1,4	–	–	–	150 s	1,5	**M7410E1002**
	0/2..10V=	24; 1,4	–	•	–	150 s	1,5	**M7410E2026**
	0/2..10V=	24; 1,4	–	•	2	150 s	1,5	**M7410E4022**
	3-pt	24; 0,7	–	–	–	150 s	1,5	**M7410C1007**
	3-pt	24; 0,7	–	•	–	150 s	1,5	**M6410C2023**
	3-pt	24; 0,7	–	•	2	150 s	1,5	**M6410C4029**
	3-pt	230; 7	–	•	–	150 s	1,5	**M6410L2023**
	3-pt	230; 7	–	•	2	150 s	1,5	**M6410L4029**
	LON	24; 1,4	–	–	–	150 s	1,5	**M7410G1016**

2-way linear valves, stroke 2,5/6,5mm

Two-way control valve PN16, flat sealing DN15/20, V5832A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5832A
Valve type	2-way
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem up
Media temp.	2 ... 120 °C
Static pressure	PN16
Port connection type	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types).

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2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	180	–	2,5	on/off	**V5832A4008**
20	G3/4	2,5	50	–	2,5	on/off	**V5832A4016**

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,16	600	1600	6,5	mod.equal%	**V5832A1004**
15	G1/2	0,25	600	1600	6,5	mod.equal%	**V5832A1012**
15	G1/2	0,4	600	1600	6,5	mod.equal%	**V5832A1020**
15	G1/2	0,63	600	1600	6,5	mod.equal%	**V5832A1038**
15	G1/2	1	180	1200	6,5	mod.equal%	**V5832A1046**
15	G1/2	1,6	180	1200	6,5	mod.equal%	**V5832A1053**
20	G3/4	2,5	50	400	6,5	mod.equal%	**V5832A1061**
20	G3/4	4	50	400	6,5	mod.equal%	**V5832A1079**

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	**AC-15FS**
Soldering fitting for DN20 valve, pipe size 15 mm	**AC-20FS**
External threaded fitting for DN15 valve, pipe size 3/8"	**AC-15FT**
External threaded fitting for DN20 valve, pipe size 1/2"	**AC-20FT**
Service tool to clean/replace inserts	**WV108**
Brush for WV108	**WV108B**

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	0..10V=	24; 2	valve closed	–	–	75 s	1	**MT010-N**
	0..10V=	24; 2	valve closed	–	–	75 s	3	**MT010-3MN**
	2-pt	24; 3	valve open	–	–	4,0 min	1	**MT4-024-NO**
	2-pt	24; 3	valve open	–	–	4,0 min	2,5	**MT4-024-NO-2.5M**
	2-pt	24; 2	valve open	–	–	6,0 min	1	**MT4-024LC-NO**
	2-pt	24; 3	valve open	–	1	4,0 min	1	**MT4-024S-NO**
	2-pt	24; 3	valve closed	–	–	4,0 min	1	**MT4-024-NC**
	2-pt	24; 3	valve closed	–	–	4,0 min	2,5	**MT4-024-NC-2.5M**
	2-pt	24; 2	valve closed	–	–	6,0 min	1	**MT4-024LC-NC**
	2-pt	24; 3	valve closed	–	1	4,0 min	1	**MT4-024S-NC**
	2-pt	230; 3	valve open	–	–	2,5 min	1	**MT4-230-NO**
	2-pt	230; 3	valve open	–	–	2,5 min	2,5	**MT4-230-NO-2.5M**
	2-pt	230; 2	valve open	–	–	3,5 min	1	**MT4-230LC-NO**
	2-pt	230; 3	valve open	–	1	2,5 min	1	**MT4-230S-NO**
	2-pt	230; 3	valve closed	–	–	2,5 min	1	**MT4-230-NC**
	2-pt	230; 3	valve closed	–	–	2,5 min	2,5	**MT4-230-NC-2.5M**
	2-pt	230; 2	valve closed	–	–	3,5 min	1	**MT4-230LC-NC**
	2-pt	230; 3	valve closed	–	1	2,5 min	1	**MT4-230S-NC**
	3-pt	24; 0,7	–	–	–	57 s	0,9	**M7410A1001**
	LON	24; 1,4	–	–	–	53 s	1,5	**M7410G1008**
6,5 mm; 90 N	2-pt	24; 8	valve open	–	–	3,6/16 s	1,5	**M5410C1001**
	2-pt	24; 3	valve open	–	–	6,0 min	1	**MT8-024-NO**
	2-pt	24; 3	valve open	–	–	6,0 min	2,5	**MT8-024-NO-2.5M**
	2-pt	24; 2	valve open	–	–	7,5 min	1	**MT8-024LC-NO**
	2-pt	24; 3	valve open	–	1	6,0 min	1	**MT8-024S-NO**
	2-pt	24; 3	valve closed	–	–	6,0 min	1	**MT8-024-NC**
	2-pt	24; 3	valve closed	–	–	6,0 min	2,5	**MT8-024-NC-2.5M**
	2-pt	24; 2	valve closed	–	–	7,5 min	1	**MT8-024LC-NC**
	2-pt	24; 3	valve closed	–	1	6,0 min	1	**MT8-024S-NC**
	2-pt	230; 15	valve open	–	–	3,6/16 s	1,5	**M5410L1001**
	2-pt	230; 3	valve open	–	–	3,5 min	1	**MT8-230-NO**
	2-pt	230; 3	valve open	–	–	3,5 min	2,5	**MT8-230-NO-2.5M**
	2-pt	230; 2	valve open	–	–	5,5 min	1	**MT8-230LC-NO**
	2-pt	230; 3	valve open	–	1	3,5 min	1	**MT8-230S-NO**
	2-pt	230; 3	valve closed	–	–	3,5 min	1	**MT8-230-NC**
	2-pt	230; 3	valve closed	–	–	3,5 min	2,5	**MT8-230-NC-2.5M**
	2-pt	230; 2	valve closed	–	–	5,5 min	1	**MT8-230LC-NC**
	2-pt	230; 3	valve closed	–	1	3,5 min	1	**MT8-230S-NC**
6,5 mm; 180 N	0/2..10V=	24; 1,4	–	–	–	150 s	1,5	**M7410E1002**
	0/2..10V=	24; 1,4	–	•	–	150 s	1,5	**M7410E2026**
	0/2..10V=	24; 1,4	–	•	2	150 s	1,5	**M7410E4022**
	3-pt	24; 0,7	–	–	–	150 s	1,5	**M7410C1007**
	3-pt	24; 0,7	–	•	–	150 s	1,5	**M6410C2023**
	3-pt	24; 0,7	–	•	2	150 s	1,5	**M6410C4029**
	3-pt	230; 7	–	•	–	150 s	1,5	**M6410L2023**
	3-pt	230; 7	–	•	2	150 s	1,5	**M6410L4029**
	LON	24; 1,4	–	–	–	150 s	1,5	**M7410G1016**

2-way linear valves, stroke 2,5/6,5mm

Two-way control valve PN16, flat sealing DN25-40, V5832B

Pressure balanced control valve.
For fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5832B2
Valve type	2-way press. bal.
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	6,5 mm
Media temp.	2 ... 130 °C
Static pressure	PN16
Port connection type	ext. thread flat sealing
Flow char.	linear
Additional description	Valves are supplied with adjustment cap.

6,5 mm

DN size mm	Connection diameter inch	Kvs value	Close off pressure with 300N motor kPa	Close off pressure with 400N motor kPa	Type
25	G1 1/2	4	1600	1600	**V5832B2075**
25	G1 1/2	6,3	1600	1600	**V5832B2083**
25	G1 1/2	10	1600	1600	**V5832B2091**
32	G2	16	1200	1200	**V5832B2109**
40	G2 1/4	25	1000	1000	**V5832B2117**

Accessories

External threaded fitting for DN25 valve, pipe size R1"	**AC-25T**
External threaded fitting for DN32 valve, pipe size R11/4"	**AC-32T**
External threaded fitting for DN40 valve, pipe size R11/2"	**AC-40T**
Internal threaded fitting for DN25 valve, pipe size Rp1"	**AC-25TF**
Internal threaded fitting for DN32 valve, pipe size Rp11/4"	**AC-32TF**
Internal threaded fitting for DN40 valve, pipe size Rp11/2"	**AC-40TF**

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime s	Cable length m	Spring return	Type
6,5 mm; 300 N	0/2..10V=	24; 1,4	–	–	–	150	1,5	–	**M7410E1028**
	0/2..10V=	24; 1,4	–	•	–	150	1,5	–	**M7410E2034**
	0/2..10V=	24; 1,4	–	•	2	150	1,5	–	**M7410E4030**
	3-pt	24; 0,7	–	–	–	150	1,5	–	**M7410C1015**
	3-pt	24; 0,7	–	•	–	150	1,5	–	**M6410C2031**
	3-pt	24; 0,7	–	•	2	150	1,5	–	**M6410C4037**
	3-pt	230; 7	–	•	–	150	1,5	–	**M6410L2031**
	3-pt	230; 7	–	•	2	150	1,5	–	**M6410L4037**
	LON	24; 1,4	–	–	–	150	1,5	–	**M7410G1024**
6,5 mm; 400 N	0/2..10V=	24; 5	–	•	–	15	–	–	**ML7430E1005**
	0/2..10V=	24; 10	valve closed	–	–	60	–	•	**ML7435E1004**
	3-pt	24; 10	valve closed	–	–	60	–	•	**ML6435B1008**
	3-pt	230; 10	valve closed	–	–	60	–	•	**ML6435B1016**

2-way linear valves, stroke 2,5/6,5mm

Compact 2-way control valve PN25, pressure balanced, DN15/32,V5825B

Compact district heating valve, with wide application range.
For domestic hot water and district heating; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5825B
Valve type	2-way press. bal.
Medium type	water/steam
Materials	body red bronze (DIN1705), trim stainless steel
Action to open	stem down
Close off pressure with 300N motor	1600 kPa
Close off pressure with 400N motor	2500 kPa
Stroke	6,5 mm
Media temp.	2 ... 130 °C
Static pressure	PN25
Port connection type	ext. thread flat sealing
Flow char.	mod.equal%
Additional description	Approved according DIN EN 14597 in combination with ML7435E/ML6435B.

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6,5 mm

DN size mm	Connection diameter inch	Kvs value	Type
15	G3/4	0,25	**V5825B1001**
15	G3/4	0,4	**V5825B1019**
15	G3/4	0,63	**V5825B1027**
15	G3/4	1	**V5825B1035**
15	G3/4	1,6	**V5825B1043**
20	G1	2,5	**V5825B1050**
20	G1	4	**V5825B1068**
25	G1 1/4	6,3	**V5825B1076**
32	G1 1/2	10	**V5825B1084**

Accessories

External threaded fitting for DN15 valve, pipe size R1/2"	**ACS-15T**
External threaded fitting for DN20 valve, pipe size R3/4"	**ACS-20T**
External threaded fitting for DN25 valve, pipe size R1"	**ACS-25T**
External threaded fitting for DN32 valve, pipe size R1 1/4"	**ACS-32T**
Welding fitting for DN15 valve, pipe size 1/2"	**ACS-15W**
Welding fitting for DN20 valve, pipe size 3/4"	**ACS-20W**
Welding fitting for DN25 valve, pipe size 1"	**ACS-25W**
Welding fitting for DN32 valve, pipe size 1 1/4"	**ACS-32W**

Adapter kits for in case V5872B models must be replaced with V5825B models

For all DN15 V5872B to DN15 V5825B	**AK15-15**
For V5872B1052 to V5825B1050	**AK20-15**
For V5872B1060 to V5825B1068	**AK20-25**
For V5872B1078 to V5825B1076	**AK25-25**

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime s	Cable length m	Spring return	Type
6,5 mm; 300 N	0/2..10V=	24; 1,4	–	–	–	150	1,5	–	**M7410E1028**
	0/2..10V=	24; 1,4	–	•	–	150	1,5	–	**M7410E2034**
	0/2..10V=	24; 1,4	–	•	2	150	1,5	–	**M7410E4030**
	3-pt	24; 0,7	–	–	–	150	1,5	–	**M7410C1015**
	3-pt	24; 0,7	–	•	–	150	1,5	–	**M6410C2031**
	3-pt	24; 0,7	–	•	2	150	1,5	–	**M6410C4037**
	3-pt	230; 7	–	•	–	150	1,5	–	**M6410L2031**
	3-pt	230; 7	–	•	2	150	1,5	–	**M6410L4037**
	LON	24; 1,4	–	–	–	150	1,5	–	**M7410G1024**
6,5 mm; 400 N	0/2..10V=	24; 5	–	•	–	15	–	–	**ML7430E1005**
	0/2..10V=	24; 10	valve closed	–	–	60	–	•	**ML7435E1004**
	3-pt	24; 10	valve closed	–	–	60	–	•	**ML6435B1008**
	3-pt	230; 10	valve closed	–	–	60	–	•	**ML6435B1016**

2-way linear valves, stroke 20/38mm

Two-way control valve PN16, threaded connections DN15-50, V5011R,S

For heating, ventilating and air conditioning; hot/cold water quality VDI2035.

Valve series	V5011R/S
Valve type	2-way
Materials	body brass, stem stainless steel; plug brass or stainless steel
Action to open	stem up
Stroke	20 mm
Media temp.	2 ... 170 °C
Static pressure	PN16
Port connection type	internal threads ISO228
Flow char.	mod.equal%

20 mm, plug brass

Medium type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
water	15	0,63	1600	–	**V5011R1000**
water	15	1	1600	–	**V5011R1018**
water	15	1,6	1600	–	**V5011R1026**
water	15	2,5	1600	–	**V5011R1034**
water	15	4	1600	–	**V5011R1042**
water	20	6,3	1600	–	**V5011R1059**
water	25	10	1000	1600	**V5011R1067**
water	32	16	700	1600	**V5011R1075**
water	40	25	460	1500	**V5011R1083**
water	50	40	260	850	**V5011R1091**

20 mm, plug stainless steel

Medium type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
water/steam	15	0,63	1600	–	**V5011S1005**
water/steam	15	1	1600	–	**V5011S1013**
water/steam	15	1,6	1600	–	**V5011S1021**
water/steam	15	2,5	1600	–	**V5011S1039**
water/steam	15	4	1600	–	**V5011S1047**
water/steam	20	6,3	1600	–	**V5011S1054**
water/steam	25	10	1000	1600	**V5011S1062**
water/steam	32	16	700	1600	**V5011S1070**
water/steam	40	25	460	1500	**V5011S1088**
water/steam	50	40	260	850	**V5011S1096**

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	valve open	•	optional	1,8	•	2..10V=	**ML7425B6007**
	0/2..10V=	24; 12	valve closed	•	optional	1,8	•	2..10V=	**ML7425A6008**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	valve open	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	24; 11	valve closed	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	valve open	•	optional	1,8	•	optional	**ML6425B3021**
	3-pt	230; 12	valve closed	•	optional	1,8	•	optional	**ML6425A3014**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**

2-way linear valves, stroke 20/38mm

Two-way control valve PN16, flanged connections DN15-150, V5328A

For heating and air conditioning; hot/cold water quality VDI2035.

Valve series	V5328A
Valve type	2-way
Medium type	water/steam
Materials	body cast iron GG25, trim stainless steel
Action to open	stem up
Static pressure	PN16
Port connection type	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..50 approved according DIN EN 14597, with motors ML6425A, ML7425A.

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20 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Type
mm		kPa	kPa	mm	°C	
15	0,25	1600	–	20	2 ... 170	**V5328A1138**
15	0,4	1600	–	20	2 ... 170	**V5328A1146**
15	0,63	1600	–	20	2 ... 170	**V5328A1153**
15	1	1600	–	20	2 ... 170	**V5328A1005**
15	1,6	1600	–	20	2 ... 170	**V5328A1013**
15	2,5	1000	1600	20	2 ... 170	**V5328A1021**
15	4	1000	1600	20	2 ... 170	**V5328A1039**
20	4	1000	1600	20	2 ... 170	**V5328A1047**
20	6,3	1000	1600	20	2 ... 170	**V5328A1054**
25	10	1000	1600	20	2 ... 170	**V5328A1062**
32	16	600	1600	20	2 ... 170	**V5328A1070**
40	25	350	1300	20	2 ... 170	**V5328A1088**
50	40	200	750	20	2 ... 170	**V5328A1096**
65	63	120	470	20	2 ... 170	**V5328A1104**
80	100	50	230	20	2 ... 170	**V5328A1112**

38 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Type
mm		kPa	kPa	mm	°C	
100	160	–	230	38	2 ... 200	**V5328A1195**
125	250	–	90	38	2 ... 200	**V5328A1203**
150	360	–	90	38	2 ... 200	**V5328A1211**

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	valve open	•	optional	1,8	•	2..10V=	**ML7425B6007**
	0/2..10V=	24; 12	valve closed	•	optional	1,8	•	2..10V=	**ML7425A6008**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	valve open	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	24; 11	valve closed	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	valve open	•	optional	1,8	•	optional	**ML6425B3021**
	3-pt	230; 12	valve closed	•	optional	1,8	•	optional	**ML6425A3014**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	3,5	–	2..10V=	**ML7421B3003**
	3-pt	24; 13	–	•	optional	3,5	–	optional	**ML6421B3004**
	3-pt	230; 11	–	•	optional	3,5	–	–	**ML6421B3012**

2-way linear valves, stroke 20/38mm

Two-way control valve PN16, high differential pressure DN15-150, V5016A

Pressure balanced control valve.
For district heating; hot or cold water (max. 50% glycol), water quality VDI2035; or steam.

Valve series	V5016A
Valve type	2-way press. bal.
Medium type	water/steam
Materials	body nodular iron GGG40.3, trim stainless steel
Action to open	stem up
Media temp.	2 ... 180 °C
Static pressure	PN16
Port connection type	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..80 approved according DIN EN 14597, with motors ML6425A, ML7425A.

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20 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
15	0,4	1600	–	20	**V5016A1010**
15	0,63	1600	–	20	**V5016A1028**
15	1	1600	–	20	**V5016A1036**
15	1,6	1600	–	20	**V5016A1044**
15	2,5	1600	–	20	**V5016A1051**
15	4	1600	–	20	**V5016A1069**
20	6,3	1600	–	20	**V5016A1077**
25	10	1600	–	20	**V5016A1085**
32	16	1600	–	20	**V5016A1093**
40	25	1600	–	20	**V5016A1101**
50	40	1600	–	20	**V5016A1119**
65	63	1600	–	20	**V5016A1127**
80	100	1600	–	20	**V5016A1135**

38 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
100	160	–	1600	38	**V5016A1143**
125	250	–	1600	38	**V5016A1150**
150	360	–	1600	38	**V5016A1168**

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	valve open	•	optional	1,8	•	2..10V=	**ML7425B6007**
	0/2..10V=	24; 12	valve closed	•	optional	1,8	•	2..10V=	**ML7425A6008**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	valve open	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	24; 11	valve closed	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	valve open	•	optional	1,8	•	optional	**ML6425B3021**
	3-pt	230; 12	valve closed	•	optional	1,8	•	optional	**ML6425A3014**
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	3,5	–	2..10V=	**ML7421B3003**
	3-pt	24; 13	–	•	optional	3,5	–	optional	**ML6421B3004**
	3-pt	230; 11	–	•	optional	3,5	–	–	**ML6421B3012**

Two-way control valve PN25, high differential pressure DN15-150, V5025A

Pressure balanced control valve.
For district heating; hot or cold water (max. 50% glycol), water quality VDI2035; or steam.

Valve series	V5025A
Valve type	2-way press. bal.
Medium type	water/steam
Materials	body nodular iron GGG40.3, trim stainless steel
Action to open	stem up
Media temp.	2 ... 200 °C
Static pressure	PN25
Port connection type	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..80 approved according DIN EN 14597, with motors ML6425A, ML7425A.

20 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
15	0,4	2500	–	20	**V5025A1019**
15	0,63	2500	–	20	**V5025A1027**
15	1	2500	–	20	**V5025A1035**
15	1,6	2500	–	20	**V5025A1043**
15	2,5	2500	–	20	**V5025A1050**
15	4	2500	–	20	**V5025A1068**
20	6,3	2500	–	20	**V5025A1076**
25	10	2500	–	20	**V5025A1084**
32	16	2500	–	20	**V5025A1092**
40	25	2500	–	20	**V5025A1100**
50	40	2500	–	20	**V5025A1118**
65	63	2500	–	20	**V5025A1126**
80	100	2500	–	20	**V5025A1134**

38 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
100	160	–	2500	38	**V5025A1142**
125	250	–	2500	38	**V5025A1159**
150	360	–	2500	38	**V5025A1167**

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	valve open	•	optional	1,8	•	2..10V=	**ML7425B6007**
	0/2..10V=	24; 12	valve closed	•	optional	1,8	•	2..10V=	**ML7425A6008**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	valve open	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	24; 11	valve closed	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	valve open	•	optional	1,8	•	optional	**ML6425B3021**
	3-pt	230; 12	valve closed	•	optional	1,8	•	optional	**ML6425A3014**
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	3,5	–	2..10V=	**ML7421B3003**
	3-pt	24; 13	–	•	optional	3,5	–	optional	**ML6421B3004**
	3-pt	230; 11	–	•	optional	3,5	–	–	**ML6421B3012**

2-way linear valves, stroke 20/38mm

Two-way control valve PN40, flanged connections DN15-100, V5049A

For heating and air conditioning; hot/cold water quality VDI2035; steam.

Valve series	V5049
Valve type	2-way
Medium type	water/steam
Materials	body cast steel GS-C25, trim stainless steel
Action to open	stem up
Media temp.	2 ... 220 °C
Static pressure	PN40
Port connection type	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..65 approved according DIN EN 14597, with motors ML6425A, ML7425A.

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20 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
15	0,25	1600	–	20	**V5049A2027**
15	0,4	1600	–	20	**V5049A2035**
15	0,63	1600	–	20	**V5049A2043**
15	1	1600	–	20	**V5049A1425**
15	1,6	1600	–	20	**V5049A1433**
15	2,5	1000	2500	20	**V5049A1441**
15	4	1000	2500	20	**V5049A1458**
20	6,3	1000	2500	20	**V5049A1508**
25	10	1000	2500	20	**V5049A1565**
32	16	600	2000	20	**V5049A1573**
40	25	350	1300	20	**V5049A1581**
50	40	200	750	20	**V5049A1599**
65	63	120	500	20	**V5049A1607**

38 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
80	100	–	230	38	**V5049A1615**
100	160	–	230	38	**V5049A1623**

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	valve open	•	optional	1,8	•	2..10V=	**ML7425B6007**
	0/2..10V=	24; 12	valve closed	•	optional	1,8	•	2..10V=	**ML7425A6008**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	valve open	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	24; 11	valve closed	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	valve open	•	optional	1,8	•	optional	**ML6425B3021**
	3-pt	230; 12	valve closed	•	optional	1,8	•	optional	**ML6425A3014**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	3,5	–	2..10V=	**ML7421B3003**
	3-pt	24; 13	–	•	optional	3,5	–	optional	**ML6421B3004**
	3-pt	230; 11	–	•	optional	3,5	–	–	**ML6421B3012**

3-way linear valves, stroke 2,5/6,5mm

Three-way control valve PN16, conical sealing DN15/20, V5823A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5823A
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Static pressure	PN16
Port connection type	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). If the main-port (A-AB) is equal percentage, the B-AB port is linear. The valve capacity of B-AB is one stage smaller.

5

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	**V5823A4009**
20	1 1/8" x 14	2,5	50	–	2,5	on/off	**V5823A4017**

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	**V5823A2003**
15	G1/2	0,4	500	800	6,5	mod.equal%	**V5823A2011**
15	G1/2	0,63	500	800	6,5	mod.equal%	**V5823A2029**
15	G1/2	1	150	250	6,5	mod.equal%	**V5823A2037**
15	G1/2	1,6	150	250	6,5	mod.equal%	**V5823A2045**
20	1 1/8" x 14	2,5	–	240	6,5	mod.equal%	**V5823A2151**
20	1 1/8" x 14	2,5	50	100	6,5	mod.equal%	**V5823A2052**
20	1 1/8" x 14	4	–	240	6,5	mod.equal%	**V5823A2169**
20	1 1/8" x 14	4	50	100	6,5	mod.equal%	**V5823A2060**

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	**ACN-15C**
Compression fitting for DN20 valve, pipe size 22 mm	**ACN-20C**
Soldering fitting for DN15 valve, pipe size 12 mm	**ACN-15S**
Soldering fitting for DN20 valve, pipe size 15 mm	**ACN-20S**
External threaded fitting for DN15 valve, pipe size 3/8"	**ACN-15T**
External threaded fitting for DN20 valve, pipe size 1/2"	**ACN-20T**
Service tool to clean/replace inserts	**WV108**
Brush for WV108	**WV108B**

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	0..10V=	24; 2	A-AB open	–	–	75 s	1	**MT010-N**
	0..10V=	24; 2	A-AB open	–	–	75 s	3	**MT010-3MN**
	2-pt	24; 3	A-AB open	–	–	4,0 min	1	**MT4-024-NC**
	2-pt	24; 3	A-AB open	–	–	4,0 min	2,5	**MT4-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	6,0 min	1	**MT4-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	4,0 min	1	**MT4-024S-NC**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	1	**MT4-024-NO**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	2,5	**MT4-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	6,0 min	1	**MT4-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	4,0 min	1	**MT4-024S-NO**
	2-pt	230; 3	A-AB open	–	–	2,5 min	1	**MT4-230-NC**
	2-pt	230; 3	A-AB open	–	–	2,5 min	2,5	**MT4-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	3,5 min	1	**MT4-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	2,5 min	1	**MT4-230S-NC**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	1	**MT4-230-NO**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	2,5	**MT4-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	3,5 min	1	**MT4-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	2,5 min	1	**MT4-230S-NO**
	3-pt	24; 0,7	–	–	–	57 s	0,9	**M7410A1001**
	LON	24; 1,4	–	–	–	53 s	1,5	**M7410G1008**
6,5 mm; 90 N	2-pt	24; 3	A-AB open	–	–	6,0 min	1	**MT8-024-NC**
	2-pt	24; 3	A-AB open	–	–	6,0 min	2,5	**MT8-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	7,5 min	1	**MT8-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	6,0 min	1	**MT8-024S-NC**
	2-pt	24; 8	A-AB closed	–	–	3,6/16 s	1,5	**M5410C1001**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	1	**MT8-024-NO**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	2,5	**MT8-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	7,5 min	1	**MT8-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	6,0 min	1	**MT8-024S-NO**
	2-pt	230; 3	A-AB open	–	–	3,5 min	1	**MT8-230-NC**
	2-pt	230; 3	A-AB open	–	–	3,5 min	2,5	**MT8-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	5,5 min	1	**MT8-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	3,5 min	1	**MT8-230S-NC**
	2-pt	230; 15	A-AB closed	–	–	3,6/16 s	1,5	**M5410L1001**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	1	**MT8-230-NO**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	2,5	**MT8-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	5,5 min	1	**MT8-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	3,5 min	1	**MT8-230S-NO**
6,5 mm; 180 N	0/2..10V=	24; 1,4	–	–	–	150 s	1,5	**M7410E1002**
	0/2..10V=	24; 1,4	–	•	–	150 s	1,5	**M7410E2026**
	0/2..10V=	24; 1,4	–	•	2	150 s	1,5	**M7410E4022**
	3-pt	24; 0,7	–	–	–	150 s	1,5	**M7410C1007**
	3-pt	24; 0,7	–	•	–	150 s	1,5	**M6410C2023**
	3-pt	24; 0,7	–	•	2	150 s	1,5	**M6410C4029**
	3-pt	230; 7	–	•	–	150 s	1,5	**M6410L2023**
	3-pt	230; 7	–	•	2	150 s	1,5	**M6410L4029**
	LON	24; 1,4	–	–	–	150 s	1,5	**M7410G1016**

3-way linear valves, stroke 2,5/6,5mm

Three-way/bypass control valve PN16, conical sealing DN15/20, V5823C

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5823C
Valve type	3-way mixing, bypass
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Static pressure	PN16
Port connection type	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). If the main-port (A-AB) is equal percentage, the B-AB port is linear. The valve capacity of B-AB is one stage smaller.

5

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	**V5823C4005**
20	1 1/8" x 14	2,5	50	–	2,5	on/off	**V5823C4013**

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	**V5823C2009**
15	G1/2	0,4	500	800	6,5	mod.equal%	**V5823C2017**
15	G1/2	0,63	500	800	6,5	mod.equal%	**V5823C2025**
15	G1/2	1	150	250	6,5	mod.equal%	**V5823C2033**
15	G1/2	1,6	150	250	6,5	mod.equal%	**V5823C2041**
20	1 1/8" x 14	2,5	–	240	6,5	mod.equal%	**V5823C2157**
20	1 1/8" x 14	2,5	50	100	6,5	mod.equal%	**V5823C2058**
20	1 1/8" x 14	4	–	240	6,5	mod.equal%	**V5823C2165**
20	1 1/8" x 14	4	50	100	6,5	mod.equal%	**V5823C2066**

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	**ACN-15C**
Compression fitting for DN20 valve, pipe size 22 mm	**ACN-20C**
Soldering fitting for DN15 valve, pipe size 12 mm	**ACN-15S**
Soldering fitting for DN20 valve, pipe size 15 mm	**ACN-20S**
External threaded fitting for DN15 valve, pipe size 3/8"	**ACN-15T**
External threaded fitting for DN20 valve, pipe size 1/2"	**ACN-20T**
Service tool to clean/replace inserts	**WV108**
Brush for WV108	**WV108B**

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	0..10V=	24; 2	A-AB open	–	–	75 s	1	**MT010-N**
	0..10V=	24; 2	A-AB open	–	–	75 s	3	**MT010-3MN**
	2-pt	24; 3	A-AB open	–	–	4,0 min	1	**MT4-024-NC**
	2-pt	24; 3	A-AB open	–	–	4,0 min	2,5	**MT4-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	6,0 min	1	**MT4-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	4,0 min	1	**MT4-024S-NC**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	1	**MT4-024-NO**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	2,5	**MT4-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	6,0 min	1	**MT4-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	4,0 min	1	**MT4-024S-NO**
	2-pt	230; 3	A-AB open	–	–	2,5 min	1	**MT4-230-NC**
	2-pt	230; 3	A-AB open	–	–	2,5 min	2,5	**MT4-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	3,5 min	1	**MT4-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	2,5 min	1	**MT4-230S-NC**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	1	**MT4-230-NO**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	2,5	**MT4-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	3,5 min	1	**MT4-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	2,5 min	1	**MT4-230S-NO**
	3-pt	24; 0,7	–	–	–	57 s	0,9	**M7410A1001**
	LON	24; 1,4	–	–	–	53 s	1,5	**M7410G1008**
6,5 mm; 90 N	2-pt	24; 3	A-AB open	–	–	6,0 min	1	**MT8-024-NC**
	2-pt	24; 3	A-AB open	–	–	6,0 min	2,5	**MT8-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	7,5 min	1	**MT8-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	6,0 min	1	**MT8-024S-NC**
	2-pt	24; 8	A-AB closed	–	–	3,6/16 s	1,5	**M5410C1001**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	1	**MT8-024-NO**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	2,5	**MT8-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	7,5 min	1	**MT8-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	6,0 min	1	**MT8-024S-NO**
	2-pt	230; 3	A-AB open	–	–	3,5 min	1	**MT8-230-NC**
	2-pt	230; 3	A-AB open	–	–	3,5 min	2,5	**MT8-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	5,5 min	1	**MT8-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	3,5 min	1	**MT8-230S-NC**
	2-pt	230; 15	A-AB closed	–	–	3,6/16 s	1,5	**M5410L1001**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	1	**MT8-230-NO**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	2,5	**MT8-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	5,5 min	1	**MT8-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	3,5 min	1	**MT8-230S-NO**
6,5 mm; 180 N	0/2..10V=	24; 1,4	–	–	–	150 s	1,5	**M7410E1002**
	0/2..10V=	24; 1,4	–	•	–	150 s	1,5	**M7410E2026**
	0/2..10V=	24; 1,4	–	•	2	150 s	1,5	**M7410E4022**
	3-pt	24; 0,7	–	–	–	150 s	1,5	**M7410C1007**
	3-pt	24; 0,7	–	•	–	150 s	1,5	**M6410C2023**
	3-pt	24; 0,7	–	•	2	150 s	1,5	**M6410C4029**
	3-pt	230; 7	–	•	–	150 s	1,5	**M6410L2023**
	3-pt	230; 7	–	•	2	150 s	1,5	**M6410L4029**
	LON	24; 1,4	–	–	–	150 s	1,5	**M7410G1016**

3-way linear valves, stroke 2,5/6,5mm

Three-way control valve PN16, flat sealing DN15/20, V5833A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5833A
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Static pressure	PN16
Port connection type	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). If the main-port (A-AB) is equal percentage, the B-AB port is linear. The valve capacity of B-AB is one stage smaller.

5

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	**V5833A4007**
20	G3/4	2,5	50	–	2,5	on/off	**V5833A4015**

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	**V5833A1003**
15	G1/2	0,4	500	800	6,5	mod.equal%	**V5833A1011**
15	G1/2	0,63	500	800	6,5	mod.equal%	**V5833A1029**
15	G1/2	1	150	250	6,5	mod.equal%	**V5833A1037**
15	G1/2	1,6	150	250	6,5	mod.equal%	**V5833A1045**
20	G3/4	2,5	–	240	6,5	mod.equal%	**V5833A3009**
20	G3/4	2,5	50	100	6,5	mod.equal%	**V5833A1052**
20	G3/4	4	–	240	6,5	mod.equal%	**V5833A3017**
20	G3/4	4	50	100	6,5	mod.equal%	**V5833A1060**

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	**AC-15FS**
Soldering fitting for DN20 valve, pipe size 15 mm	**AC-20FS**
External threaded fitting for DN15 valve, pipe size 3/8"	**AC-15FT**
External threaded fitting for DN20 valve, pipe size 1/2"	**AC-20FT**
Service tool to clean/replace inserts	**WV108**
Brush for WV108	**WV108B**

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	0..10V=	24; 2	A-AB open	–	–	75 s	1	**MT010-N**
	0..10V=	24; 2	A-AB open	–	–	75 s	3	**MT010-3MN**
	2-pt	24; 3	A-AB open	–	–	4,0 min	1	**MT4-024-NC**
	2-pt	24; 3	A-AB open	–	–	4,0 min	2,5	**MT4-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	6,0 min	1	**MT4-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	4,0 min	1	**MT4-024S-NC**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	1	**MT4-024-NO**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	2,5	**MT4-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	6,0 min	1	**MT4-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	4,0 min	1	**MT4-024S-NO**
	2-pt	230; 3	A-AB open	–	–	2,5 min	1	**MT4-230-NC**
	2-pt	230; 3	A-AB open	–	–	2,5 min	2,5	**MT4-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	3,5 min	1	**MT4-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	2,5 min	1	**MT4-230S-NC**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	1	**MT4-230-NO**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	2,5	**MT4-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	3,5 min	1	**MT4-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	2,5 min	1	**MT4-230S-NO**
	3-pt	24; 0,7	–	–	–	57 s	0,9	**M7410A1001**
	LON	24; 1,4	–	–	–	53 s	1,5	**M7410G1008**
6,5 mm; 90 N	2-pt	24; 3	A-AB open	–	–	6,0 min	1	**MT8-024-NC**
	2-pt	24; 3	A-AB open	–	–	6,0 min	2,5	**MT8-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	7,5 min	1	**MT8-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	6,0 min	1	**MT8-024S-NC**
	2-pt	24; 8	A-AB closed	–	–	3,6/16 s	1,5	**M5410C1001**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	1	**MT8-024-NO**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	2,5	**MT8-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	7,5 min	1	**MT8-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	6,0 min	1	**MT8-024S-NO**
	2-pt	230; 3	A-AB open	–	–	3,5 min	1	**MT8-230-NC**
	2-pt	230; 3	A-AB open	–	–	3,5 min	2,5	**MT8-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	5,5 min	1	**MT8-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	3,5 min	1	**MT8-230S-NC**
	2-pt	230; 15	A-AB closed	–	–	3,6/16 s	1,5	**M5410L1001**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	1	**MT8-230-NO**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	2,5	**MT8-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	5,5 min	1	**MT8-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	3,5 min	1	**MT8-230S-NO**
6,5 mm; 180 N	0/2..10V=	24; 1,4	–	–	–	150 s	1,5	**M7410E1002**
	0/2..10V=	24; 1,4	–	•	–	150 s	1,5	**M7410E2026**
	0/2..10V=	24; 1,4	–	•	2	150 s	1,5	**M7410E4022**
	3-pt	24; 0,7	–	–	–	150 s	1,5	**M7410C1007**
	3-pt	24; 0,7	–	•	–	150 s	1,5	**M6410C2023**
	3-pt	24; 0,7	–	•	2	150 s	1,5	**M6410C4029**
	3-pt	230; 7	–	•	–	150 s	1,5	**M6410L2023**
	3-pt	230; 7	–	•	2	150 s	1,5	**M6410L4029**
	LON	24; 1,4	–	–	–	150 s	1,5	**M7410G1016**

3-way linear valves, stroke 2,5/6,5mm

Three-way/bypass control valve PN16, flat sealing DN15/20, V5833C

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5833C
Valve type	3-way mixing, bypass
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Static pressure	PN16
Port connection type	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). The valve capacity for linear ports is one stage smaller than for equal percentage ports.

5

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	**V5833C4003**
20	G3/4	2,5	50	–	2,5	on/off	**V5833C4011**

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	**V5833C1066**
15	G1/2	0,4	500	800	6,5	mod.equal%	**V5833C1009**
15	G1/2	0,63	500	800	6,5	mod.equal%	**V5833C1017**
15	G1/2	1	150	250	6,5	mod.equal%	**V5833C1025**
15	G1/2	1,6	150	250	6,5	mod.equal%	**V5833C1033**
20	G3/4	2,5	–	240	6,5	mod.equal%	**V5833C1140**
20	G3/4	2,5	50	100	6,5	mod.equal%	**V5833C1041**
20	G3/4	4	–	240	6,5	mod.equal%	**V5833C1152**
20	G3/4	4	50	100	6,5	mod.equal%	**V5833C1058**

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	**AC-15FS**
Soldering fitting for DN20 valve, pipe size 15 mm	**AC-20FS**
External threaded fitting for DN15 valve, pipe size 3/8"	**AC-15FT**
External threaded fitting for DN20 valve, pipe size 1/2"	**AC-20FT**
Service tool to clean/replace inserts	**WV108**
Brush for WV108	**WV108B**

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	0..10V=	24; 2	A-AB open	–	–	75 s	1	**MT010-N**
	0..10V=	24; 2	A-AB open	–	–	75 s	3	**MT010-3MN**
	2-pt	24; 3	A-AB open	–	–	4,0 min	1	**MT4-024-NC**
	2-pt	24; 3	A-AB open	–	–	4,0 min	2,5	**MT4-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	6,0 min	1	**MT4-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	4,0 min	1	**MT4-024S-NC**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	1	**MT4-024-NO**
	2-pt	24; 3	A-AB closed	–	–	4,0 min	2,5	**MT4-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	6,0 min	1	**MT4-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	4,0 min	1	**MT4-024S-NO**
	2-pt	230; 3	A-AB open	–	–	2,5 min	1	**MT4-230-NC**
	2-pt	230; 3	A-AB open	–	–	2,5 min	2,5	**MT4-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	3,5 min	1	**MT4-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	2,5 min	1	**MT4-230S-NC**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	1	**MT4-230-NO**
	2-pt	230; 3	A-AB closed	–	–	2,5 min	2,5	**MT4-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	3,5 min	1	**MT4-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	2,5 min	1	**MT4-230S-NO**
	3-pt	24; 0,7	–	–	–	57 s	0,9	**M7410A1001**
	LON	24; 1,4	–	–	–	53 s	1,5	**M7410G1008**
6,5 mm; 90 N	2-pt	24; 3	A-AB open	–	–	6,0 min	1	**MT8-024-NC**
	2-pt	24; 3	A-AB open	–	–	6,0 min	2,5	**MT8-024-NC-2.5M**
	2-pt	24; 2	A-AB open	–	–	7,5 min	1	**MT8-024LC-NC**
	2-pt	24; 3	A-AB open	–	1	6,0 min	1	**MT8-024S-NC**
	2-pt	24; 8	A-AB closed	–	–	3,6/16 s	1,5	**M5410C1001**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	1	**MT8-024-NO**
	2-pt	24; 3	A-AB closed	–	–	6,0 min	2,5	**MT8-024-NO-2.5M**
	2-pt	24; 2	A-AB closed	–	–	7,5 min	1	**MT8-024LC-NO**
	2-pt	24; 3	A-AB closed	–	1	6,0 min	1	**MT8-024S-NO**
	2-pt	230; 3	A-AB open	–	–	3,5 min	1	**MT8-230-NC**
	2-pt	230; 3	A-AB open	–	–	3,5 min	2,5	**MT8-230-NC-2.5M**
	2-pt	230; 2	A-AB open	–	–	5,5 min	1	**MT8-230LC-NC**
	2-pt	230; 3	A-AB open	–	1	3,5 min	1	**MT8-230S-NC**
	2-pt	230; 15	A-AB closed	–	–	3,6/16 s	1,5	**M5410L1001**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	1	**MT8-230-NO**
	2-pt	230; 3	A-AB closed	–	–	3,5 min	2,5	**MT8-230-NO-2.5M**
	2-pt	230; 2	A-AB closed	–	–	5,5 min	1	**MT8-230LC-NO**
	2-pt	230; 3	A-AB closed	–	1	3,5 min	1	**MT8-230S-NO**
6,5 mm; 180 N	0/2..10V=	24; 1,4	–	–	–	150 s	1,5	**M7410E1002**
	0/2..10V=	24; 1,4	–	•	–	150 s	1,5	**M7410E2026**
	0/2..10V=	24; 1,4	–	•	2	150 s	1,5	**M7410E4022**
	3-pt	24; 0,7	–	–	–	150 s	1,5	**M7410C1007**
	3-pt	24; 0,7	–	•	–	150 s	1,5	**M6410C2023**
	3-pt	24; 0,7	–	•	2	150 s	1,5	**M6410C4029**
	3-pt	230; 7	–	•	–	150 s	1,5	**M6410L2023**
	3-pt	230; 7	–	•	2	150 s	1,5	**M6410L4029**
	LON	24; 1,4	–	–	–	150 s	1,5	**M7410G1016**

3-way linear valves, stroke 2,5/6,5mm

Three-way control valve PN16, flat sealing DN25-40, V5833A

Pressure balanced control valve.
For fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5833A2
Valve type	3-way mixing, press. bal.
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	6,5 mm
Media temp.	2 ... 130 °C
Static pressure	PN16
Port connection type	ext. thread flat sealing
Flow char.	linear
Additional description	Valves are supplied with adjustment cap.

5

6,5 mm

DN size mm	Connection diameter inch	Kvs value	Close off pressure with 300N motor kPa	Close off pressure with 400N motor kPa	Type
25	G1 1/2	4	1600	1600	**V5833A2076**
25	G1 1/2	6,3	1600	1600	**V5833A2084**
25	G1 1/2	10	1600	1600	**V5833A2092**
32	G2	16	1200	1200	**V5833A2100**
40	G2 1/4	25	1200	1200	**V5833A2118**

Accessories

External threaded fitting for DN25 valve, pipe size R1"	**AC-25T**
External threaded fitting for DN32 valve, pipe size R11/4"	**AC-32T**
External threaded fitting for DN40 valve, pipe size R11/2"	**AC-40T**
Internal threaded fitting for DN25 valve, pipe size Rp1"	**AC-25TF**
Internal threaded fitting for DN32 valve, pipe size Rp11/4"	**AC-32TF**
Internal threaded fitting for DN40 valve, pipe size Rp11/2"	**AC-40TF**

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime s	Cable length m	Spring return	Type
6,5 mm; 300 N	0/2..10V=	24; 1,4	–	–	–	150	1,5	–	**M7410E1028**
	0/2..10V=	24; 1,4	–	•	–	150	1,5	–	**M7410E2034**
	0/2..10V=	24; 1,4	–	•	2	150	1,5	–	**M7410E4030**
	3-pt	24; 0,7	–	–	–	150	1,5	–	**M7410C1015**
	3-pt	24; 0,7	–	•	–	150	1,5	–	**M6410C2031**
	3-pt	24; 0,7	–	•	2	150	1,5	–	**M6410C4037**
	3-pt	230; 7	–	•	–	150	1,5	–	**M6410L2031**
	3-pt	230; 7	–	•	2	150	1,5	–	**M6410L4037**
	LON	24; 1,4	–	–	–	150	1,5	–	**M7410G1024**
6,5 mm; 400 N	0/2..10V=	24; 5	–	•	–	15	–	–	**ML7430E1005**
	0/2..10V=	24; 10	A-AB closed	–	–	60	–	•	**ML7435E1004**
	3-pt	24; 10	A-AB closed	–	–	60	–	•	**ML6435B1008**
	3-pt	230; 10	A-AB closed	–	–	60	–	•	**ML6435B1016**

3-way linear valves, stroke 2,5/6,5mm

Three-way control valve PN16, threaded connections DN15-50, V5078B

For under floor heating, heating and air conditioning; cold/hot water.

Valve series	V5078B
Valve type	3-way mixing
Medium type	water
Materials	body red brass RG5, trim stainless steel
Action to open	stem down
Close off pressure with 180N motor	1000 kPa
Stroke	6,5 mm
Media temp.	2 ... 120 °C
Static pressure	PN16
Port connection type	internal threads ISO228
Flow char.	mod.equal%
Additional description	Adaper ring 0903403 must be used for mechanical interface; and must be ordered seperately.

6,5 mm

DN size mm	Connection diameter inch	Kvs value	Type
15	1/2	2,5	**V5078B1005**
20	3/4	3,3	**V5078B1013**
25	1	5	**V5078B1021**
32	1 1/4	5	**V5078B1039**
40	1 1/2	11	**V5078B1047**
50	2	13	**V5078B1054**

Actuators	Control input signal	Power supply Vac; VA	Manual operation	End switches	Runtime s	Cable length m	Type
6,5 mm; 180 N	0/2..10V=	24; 1,4	–	–	150	1,5	**M7410E1002**
	0/2..10V=	24; 1,4	•	–	150	1,5	**M7410E2026**
	0/2..10V=	24; 1,4	•	2	150	1,5	**M7410E4022**
	3-pt	24; 0,7	–	–	150	1,5	**M7410C1007**
	3-pt	24; 0,7	•	–	150	1,5	**M6410C2023**
	3-pt	24; 0,7	•	2	150	1,5	**M6410C4029**
	3-pt	230; 7	•	–	150	1,5	**M6410L2023**
	3-pt	230; 7	•	2	150	1,5	**M6410L4029**
	LON	24; 1,4	–	–	150	1,5	**M7410G1016**

3-way linear valves, stroke 20/38mm

Three-way control valve PN16, flat sealing DN15-50, V5013E

For heating, ventilating and air conditioning, open circuits; hot/cold water quality VDI2035.

Valve series	V5013E
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	20 mm
Media temp.	2 ... 170 °C
Static pressure	PN16
Port connection type	ext. thread flat sealing
Flow char.	mod.equal%

5

20 mm

DN size mm	Connection diameter inch	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
15	G1 1/8	2,5	1600	–	**V5013E1063**
15	G1 1/8	4	1600	–	**V5013E1071**
20	G1 1/4	6,3	1600	–	**V5013E1089**
25	G1 1/2	10	1000	1600	**V5013E1097**
32	G2	16	700	1600	**V5013E1105**
40	G2 1/4	25	460	1500	**V5013E1113**
50	G2 3/4	40	260	850	**V5013E1121**

Accessories

Internal threaded fitting for DN15 valve, pipe size Rp1/2"	**AC-15TF**
Internal threaded fitting for DN20 valve, pipe size Rp3/4"	**AC-20TF**
Internal threaded fitting for DN25 valve, pipe size Rp1"	**AC-25TF**
Internal threaded fitting for DN32 valve, pipe size Rp1 1/4"	**AC-32TF**
Internal threaded fitting for DN40 valve, pipe size Rp1 1/2"	**AC-40TF**
Internal threaded fitting for DN50 valve, pipe size Rp2"	**AC-50TF**

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	A-AB open	•	optional	1,8	•	2..10V=	**ML7425A6008**
	0/2..10V=	24; 12	A-AB closed	•	optional	1,8	•	2..10V=	**ML7425B6007**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	A-AB open	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	24; 11	A-AB closed	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	A-AB open	•	optional	1,8	•	optional	**ML6425A3014**
	3-pt	230; 12	A-AB closed	•	optional	1,8	•	optional	**ML6425B3021**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**

Three-way control valve PN16, threaded connections DN15-50, V5013R

For heating, ventilating and air conditioning, open circuits; hot/cold water quality VDI2035.

Valve series	V5013R
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	20 mm
Media temp.	2 ... 170 °C
Static pressure	PN16
Port connection type	internal threads ISO228
Flow char.	mod.equal%

20 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
15	2,5	1600	–	**V5013R1032**
15	4	1600	–	**V5013R1040**
20	6,3	1600	–	**V5013R1057**
25	10	1000	1600	**V5013R1065**
32	16	700	1600	**V5013R1073**
40	25	460	1500	**V5013R1081**
50	40	260	850	**V5013R1099**

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	A-AB open	•	optional	1,8	•	2..10V=	**ML7425A6008**
	0/2..10V=	24; 12	A-AB closed	•	optional	1,8	•	2..10V=	**ML7425B6007**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	A-AB open	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	24; 11	A-AB closed	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	A-AB open	•	optional	1,8	•	optional	**ML6425A3014**
	3-pt	230; 12	A-AB closed	•	optional	1,8	•	optional	**ML6425B3021**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**

3-way linear valves, stroke 20/38mm

Three-way control valve PN6, flanged connections DN15-150, V5329C/V5015A

For heating and air conditioning; hot/cold water quality VDI2035; greenhouses.

Valve series	V5329C/V5015
Valve type	3-way mixing
Medium type	water
Materials	body cast iron GG25, trim stainless steel
Action to open	stem down
Static pressure	PN6
Port connection type	flanges ISO7005
Flow char.	mod.equal%

20 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Type
mm		kPa	kPa	mm	°C	
15	2,5	600	–	20	2 ... 170	**V5329C1000**
15	4	600	–	20	2 ... 170	**V5329C1018**
20	6,3	600	–	20	2 ... 170	**V5329C1026**
25	10	600	–	20	2 ... 170	**V5329C1034**
32	16	600	–	20	2 ... 170	**V5329C1042**
40	25	480	600	20	2 ... 170	**V5329C1059**
50	40	260	600	20	2 ... 170	**V5329C1067**
65	63	160	600	20	2 ... 170	**V5329C1075**
80	100	100	400	20	2 ... 170	**V5329C1083**

38 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Type
mm		kPa	kPa	mm	°C	
100	140	–	150	38	2 ... 120	**V5015A1151**
125	220	–	120	38	2 ... 120	**V5015A1169**
150	310	–	80	38	2 ... 120	**V5015A1177**

3-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	A-AB open	•	optional	1,8	•	2..10V=	**ML7425A6008**
	0/2..10V=	24; 12	A-AB closed	•	optional	1,8	•	2..10V=	**ML7425B6007**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	A-AB open	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	24; 11	A-AB closed	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	A-AB open	•	optional	1,8	•	optional	**ML6425A3014**
	3-pt	230; 12	A-AB closed	•	optional	1,8	•	optional	**ML6425B3021**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	3,5	–	2..10V=	**ML7421B3003**
	3-pt	24; 13	–	•	optional	3,5	–	optional	**ML6421B3004**
	3-pt	230; 11	–	•	optional	3,5	–	–	**ML6421B3012**

3-way linear valves, stroke 20/38mm

Three-way control valve PN16, flanged connections DN 15-150, V5329A/V5050A,B

For heating and air conditioning; hot/cold water quality VDI2035; greenhouses.

Valve series	V5329A/V5050
Medium type	water
Materials	body cast iron GG25, trim stainless steel
Action to open	stem down
Static pressure	PN16
Port connection type	flanges ISO7005

20 mm

Valve type	DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Flow char.	Type
	mm		kPa	kPa	mm	°C		
3-way mixing	15	2,5	1000	–	20	2 ... 170	mod.equal%	**V5329A1004**
3-way mixing	15	4	1000	–	20	2 ... 170	mod.equal%	**V5329A1012**
3-way mixing	20	6,3	1000	–	20	2 ... 170	mod.equal%	**V5329A1020**
3-way mixing	25	10	1000	–	20	2 ... 170	mod.equal%	**V5329A1038**
3-way mixing	32	16	790	1000	20	2 ... 170	mod.equal%	**V5329A1046**
3-way mixing	40	25	480	1000	20	2 ... 170	mod.equal%	**V5329A1053**
3-way mixing	50	40	260	1000	20	2 ... 170	mod.equal%	**V5329A1061**
3-way mixing	65	63	160	650	20	2 ... 170	mod.equal%	**V5329A1079**
3-way mixing	80	100	100	400	20	2 ... 170	mod.equal%	**V5329A1087**

38 mm, mixing

Valve type	DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Flow char.	Type
	mm		kPa	kPa	mm	°C		
3-way mixing	100	160	–	230	38	2 ... 220	linear	**V5050A1090**
3-way mixing	125	250	–	90	38	2 ... 220	linear	**V5050A1108**
3-way mixing	150	360	–	90	38	2 ... 220	linear	**V5050A1116**

38 mm, diverting, action to open AB-A: stem up

Valve type	DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Flow char.	Type
	mm		kPa	kPa	mm	°C		
3-way diverting	100	160	–	230	38	2 ... 220	linear	**V5050B1064**
3-way diverting	125	250	–	90	38	2 ... 220	linear	**V5050B1072**
3-way diverting	150	360	–	90	38	2 ... 220	linear	**V5050B1080**

3-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	A-AB open	•	optional	1,8	•	2..10V=	**ML7425A6008**
	0/2..10V=	24; 12	A-AB closed	•	optional	1,8	•	2..10V=	**ML7425B6007**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	A-AB open	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	24; 11	A-AB closed	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	A-AB open	•	optional	1,8	•	optional	**ML6425A3014**
	3-pt	230; 12	A-AB closed	•	optional	1,8	•	optional	**ML6425B3021**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	3,5	–	2..10V=	**ML7421B3003**
	3-pt	24; 13	–	•	optional	3,5	–	optional	**ML6421B3004**
	3-pt	230; 11	–	•	optional	3,5	–	–	**ML6421B3012**

3-way linear valves, stroke 20/38mm

Three-way control valve PN25/40, flanged connections DN15-100, V5050A,B

For heating systems, hot water quality VDI2035.

Valve series	V5050
Medium type	water
Materials	body cast steel GS-C25, trim stainless steel
Action to open	stem down
Media temp.	2 ... 220 °C
Static pressure	PN25/40
Port connection type	flanges ISO7005
Flow char.	linear

5

20 mm

Valve type	DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Type
	mm		kPa	kPa	mm	
3-way mixing	15	2,5	1000	2500	20	**V5050A1124**
3-way mixing	15	4	1000	2500	20	**V5050A1132**
3-way mixing	20	6,3	1000	2500	20	**V5050A1140**
3-way mixing	25	10	1000	2500	20	**V5050A1157**
3-way mixing	32	16	600	2000	20	**V5050A1165**
3-way mixing	40	25	350	1300	20	**V5050A1173**
3-way mixing	50	40	200	750	20	**V5050A1181**
3-way mixing	65	63	120	500	20	**V5050A1199**
3-way mixing	80	100	50	230	20	**V5050A1207**

38 mm, mixing

Valve type	DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Type
	mm		kPa	kPa	mm	
3-way mixing	100	160	–	230	38	**V5050A1215**

38 mm, diverting, action to open AB-A: stem up

Valve type	DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Type
	mm		kPa	kPa	mm	
3-way diverting	100	160	–	230	38	**V5050B1155**

3-way linear valves, stroke 20/38mm

Actuators	Control input signal	Power supply Vac; VA	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24; 7	–	•	optional	0,5	–	2..10V=	**ML7420A6017**
	0/2..10V=	24; 5	–	•	optional	1,0	–	2..10V=	**ML7420A6009**
	0/2..10V=	24; 12	A-AB open	•	optional	1,8	•	2..10V=	**ML7425A6008**
	0/2..10V=	24; 12	A-AB closed	•	optional	1,8	•	2..10V=	**ML7425B6007**
	2..10V=	24; 5	–	–	optional	1,0	–	–	**ML7420A6025**
	3-pt	24; 4	–	–	optional	1,0	–	optional	**ML6420A3072**
	3-pt	24; 6	–	•	optional	0,5	–	optional	**ML6420A3023**
	3-pt	24; 4	–	•	optional	1,0	–	optional	**ML6420A3007**
	3-pt	24; 11	A-AB open	•	optional	1,8	•	optional	**ML6425A3006**
	3-pt	24; 11	A-AB closed	•	optional	1,8	•	optional	**ML6425B3005**
	3-pt	230; 6,5	–	•	optional	0,5	–	optional	**ML6420A3031**
	3-pt	230; 6,5	–	•	optional	1,0	–	optional	**ML6420A3015**
	3-pt	230; 12	A-AB open	•	optional	1,8	•	optional	**ML6425A3014**
	3-pt	230; 12	A-AB closed	•	optional	1,8	•	optional	**ML6425B3021**
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	1,9	–	2..10V=	**ML7421A3004**
	3-pt	24; 13	–	•	optional	1,9	–	optional	**ML6421A3005**
	3-pt	230; 11	–	•	optional	1,9	–	–	**ML6421A3013**
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24; 12	–	•	optional	3,5	–	2..10V=	**ML7421B3003**
	3-pt	24; 13	–	•	optional	3,5	–	optional	**ML6421B3004**
	3-pt	230; 11	–	•	optional	3,5	–	–	**ML6421B3012**

Valves rotary — Page

Butterfly valves 6-2
Rotary valves 6-4

Honeywell

Butterfly valve DN25..200, without actuator

For heating applications, or boiler management systems.
For heating water containing up to 50% glycol. Other additives possible, but contact Honeywell for confirmation.

Valve series	V5421B
Valve type	butterfly for motor
Medium type	water
Materials	rotary disc DN25-80 stainless steel 1.4581, DN100-200 ductile iron GGG40; coating DeltaMagni
Packing	EPDM
Angle of rotation	90 º
Static pressure	PN16
Port connection type	wafer
Additional description	Without flanges. Actuators (M60.., M70.., M6422L1003) to be ordered seperatley.

DN size mm	Kvs value	Max. delta P kPa	Torque for max. delta P Nm	Media temp. ºC	Type
25	26	1600	8	-10 ... 120	**V5421B1009**
32	26	1600	8	-10 ... 120	**V5421B1017**
40	50	1600	12	-10 ... 120	**V5421B1025**
50	116	1000	12	-10 ... 120	**V5421B1033**
65	259	1000	15	-10 ... 120	**V5421B1041**
80	377	1000	25	-10 ... 120	**V5421B1058**
100	763	800	40	-10 ... 120	**V5421B1066**
125	1030	600	40	0 ... 90	**V5421B1074**
150	1790	400	40	0 ... 90	**V5421B1082**
200	3460	300	60	0 ... 90	**V5421B1090**

Spare parts

Coupling set	**VCU-SET**
Universal console	**VCO2**

M6061A1021	M6061A1039	M6061A1047	M6061L1027	M6061L1035	M6061L1043	M6422L1003	M7061E1020	
3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	0/2..10V=	Control input signal
24; 3,5	24; 3,5	24; 3,5	230; 3,5	230; 3,5	230; 3,5	230; 7	24; 2,4	Power supply [Vac; VA]
20	30	40	20	30	40	40	20	Torque [Nm]
•	–	–	•	–	–	–	•	**V5421B1009**
•	–	–	•	–	–	–	•	**V5421B1017**
•	–	–	•	–	–	–	•	**V5421B1025**
•	–	–	•	–	–	–	•	**V5421B1033**
•	–	–	•	–	–	–	•	**V5421B1041**
–	•	–	–	•	–	–	–	**V5421B1058**
–	–	•	–	–	•	–	–	**V5421B1066**
–	–	•	–	–	•	–	–	**V5421B1074**
–	–	•	–	–	•	–	–	**V5421B1082**
–	–	–	–	–	–	•	–	**V5421B1090**

Motorized Butterfly valve DN250..400

Butterfly valve with factory mounted electrical actuator.
For heating water containing up to 50% glycol. Other additives possible, but contact Honeywell for confirmation.

Valve series	V5422L/E
Valve type	butterfly motorized
Medium type	water
Materials	body and disc ductile iron GGG40, disc coating DeltaMagni, shaft stainless steel 1.4021
Packing	EPDM
Protection class	IP67
Position indication	mechanical pointer
Max. delta P	1000 kPa
Angle of rotation	max. 90 ^{o}
Static pressure	PN10
Port connection type	wafer
Manual operation	with wheel
Media temp.	-10 ... 120 ^{o}C
Additional description	Without flanges.

3-pt control, with 2x SPST 230 Vac end switches for open/close feedback

DN size mm	Kvs value	Torque Nm	Power supply Vac; VA	Runtime s	Control input signal	Type
250	5070	250	230; 276	30	3-pt	**V5422L1006**
300	7430	600	230; 276	30	3-pt	**V5422L1014**
350	10320	600	230; 460	30	3-pt	**V5422L1022**
400	13290	1000	230; 276	60	3-pt	**V5422L1030**

Modulating control and electrical position indication, Microswitch settings for signals values 0/2..10V, 0/4..20mA

DN size mm	Kvs value	Torque Nm	Power supply Vac; VA	Runtime s	Control input signal	Type
250	5070	250	230; 276	30	0/2..10V=; 0/4..20mA	**V5422E1001**
300	7430	600	230; 276	30	0/2..10V=; 0/4..20mA	**V5422E1019**
350	10320	600	230; 460	30	0/2..10V=; 0/4..20mA	**V5422E1027**
400	13290	1000	230; 276	60	0/2..10V=; 0/4..20mA	**V5422E1035**

Three-way rotary valve PN6

For supply water, heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	DRG
Valve type	3-way rotary mixing
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 130 °C
Static pressure	PN6
Reduced delta P	40 kPa

Internal threads

DN size mm	Kvs value	Max. delta P kPa	Torque for max. delta P Nm	Torque for reduced delta P Nm	Port connection type	Type
15	2,5	100	10	10	internal threads	**DR15-2GMLA**
15	4	100	10	10	internal threads	**DR15GMLA**
20	6,3	100	10	10	internal threads	**DR20GMLA**
25	10	100	10	10	internal threads	**DR25GMLA**
32	16	100	10	10	internal threads	**DR32GMLA**
40	25	100	20	10	internal threads	**DR40GMLA**

Flanges

DN size	Kvs value	Max. delta P	Torque for max. delta P	Torque for reduced delta P	Port connection type	Type
mm		kPa	Nm	Nm		
20	6,3	100	10	10	flanges DIN2531	**DR20GFLA**
25	10	100	10	10	flanges DIN2531	**DR25GFLA**
32	16	100	10	10	flanges DIN2531	**DR32GFLA**
40	25	100	20	10	flanges DIN2531	**DR40GFLA**
50	40	100	20	20	flanges DIN2531	**DR50GFLA**
65	63	100	20	20	flanges DIN2531	**DR65GFLA**
80	100	100	30	20	flanges DIN2531	**DR80GFLA**
100	160	100	40	30	flanges DIN2531	**DR100GFLA**
125	250	70	40	30	flanges DIN2531	**DR125GFLA**
150	630	50	40	40	flanges DIN2531	**DR150GFLA**
200	1000	50	40	40	flanges DIN2531	**DR200GFLA1**
200	1600	50	40	40	flanges DIN2531	**DR200GFLA**

M6061A1013	M6061A1021	M6061A1039	M6061A1047	M6061L1019	M6061L1027	M6061L1035	M6061L1043	M7061E1012	M7061E1020	
3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	0/2..10V=	0/2..10V=	Control input signal
24; 3,5	24; 3,5	24; 3,5	24; 3,5	230; 3,5	230; 3,5	230; 3,5	230; 3,5	24; 2,4	24; 2,4	Power supply [Vac; VA]
10	20	30	40	10	20	30	40	10	20	Torque [Nm]
•	–	–	–	•	–	–	–	•	–	**DR15-2GMLA**
•	–	–	–	•	–	–	–	•	–	**DR15GMLA**
•	–	–	–	•	–	–	–	•	–	**DR20GMLA**
•	–	–	–	•	–	–	–	•	–	**DR25GMLA**
•	–	–	–	•	–	–	–	•	–	**DR32GMLA**
•	•	–	–	•	•	–	–	•	•	**DR40GMLA**
•	–	–	–	•	–	–	–	•	–	**DR20GFLA**
•	–	–	–	•	–	–	–	•	–	**DR25GFLA**
•	–	–	–	•	–	–	–	•	–	**DR32GFLA**
•	•	–	–	•	•	–	–	•	•	**DR40GFLA**
–	•	–	–	–	•	–	–	–	•	**DR50GFLA**
–	•	–	–	–	•	–	–	–	•	**DR65GFLA**
–	•	•	–	–	•	•	–	–	–	**DR80GFLA**
–	–	•	•	–	–	•	•	–	–	**DR100GFLA**
–	–	•	•	–	–	•	•	–	–	**DR125GFLA**
–	–	–	•	–	–	–	•	–	–	**DR150GFLA**
–	–	–	•	–	–	–	•	–	–	**DR200GFLA1**
–	–	–	•	–	–	–	•	–	–	**DR200GFLA**

Three-way rotary valve PN6, compact

For heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5433A
Valve type	3-way rotary mixing, compact
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Static pressure	PN6
Port connection type	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm

DN size mm	Kvs value	Type
20	2,5	**V5433A1015**
20	4	**V5433A1023**
20	6,3	**V5433A1031**
25	10	**V5433A1049**
32	16	**V5433A1056**
40	25	**V5433A1064**
50	40	**V5433A1072**

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24; 3	24; 3	230; 3	230; 3	Power supply [Vac; VA]
7	7	7	7	Torque [Nm]
•	•	•	•	**V5433A1015**
•	•	•	•	**V5433A1023**
•	•	•	•	**V5433A1031**
•	•	•	•	**V5433A1049**
•	•	•	•	**V5433A1056**
•	•	•	•	**V5433A1064**
•	•	•	•	**V5433A1072**

Three-way rotary valve PN6, compact, chrome plated

For hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5433G
Valve type	3-way rotary mixing, compact
Medium type	water
Materials	body chrome plated cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Static pressure	PN6
Port connection type	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm

DN size mm	Kvs value	Type
20	2,5	**V5433G1004**
20	4	**V5433G1012**
20	6,3	**V5433G1020**
25	10	**V5433G1038**
32	16	**V5433G1046**
40	25	**V5433G1053**
50	40	**V5433G1061**

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24; 3	24; 3	230; 3	230; 3	Power supply [Vac; VA]
7	7	7	7	Torque [Nm]
•	•	•	•	**V5433G1004**
•	•	•	•	**V5433G1012**
•	•	•	•	**V5433G1020**
•	•	•	•	**V5433G1038**
•	•	•	•	**V5433G1046**
•	•	•	•	**V5433G1053**
•	•	•	•	**V5433G1061**

Four-way rotary valve PN6

For supply water, heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	ZR
Valve type	4-way rotary mixing
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Static pressure	PN6

Internal threads

DN size	Kvs value	Max. delta P	Torque for max. delta P	Reduced delta P	Torque for reduced delta P	Media temp.	Port connection type	Type
mm		kPa	Nm	kPa	Nm	°C		
15	4	100	20	80	10	2 ... 130	internal threads	**ZR15MA**
20	6,3	100	20	80	10	2 ... 130	internal threads	**ZR20MA**
25	10	100	20	80	10	2 ... 130	internal threads	**ZR25MA**
32	16	100	20	80	10	2 ... 130	internal threads	**ZR32MA**
40	25	100	20	70	10	2 ... 130	internal threads	**ZR40MA**

Flanges

DN size	Kvs value	Max. delta P	Torque for max. delta P	Reduced delta P	Torque for reduced delta P	Media temp.	Port connection type	Type
mm		kPa	Nm	kPa	Nm	°C		
25	10	100	20	80	10	2 ... 130	flanges DIN2531	**ZR25FA**
32	16	100	20	80	10	2 ... 130	flanges DIN2531	**ZR32FA**
40	25	100	20	70	10	2 ... 130	flanges DIN2531	**ZR40FA**
50	40	100	20	100	20	2 ... 130	flanges DIN2531	**ZR50FA**
65	63	100	20	100	20	2 ... 130	flanges DIN2531	**ZR65FA**
80	100	100	30	100	30	2 ... 130	flanges DIN2531	**ZR80FA**
100	160	80	30	80	30	2 ... 130	flanges DIN2531	**ZR100FA**
125	250	50	30	50	30	2 ... 130	flanges DIN2531	**ZR125FA**
150	400	40	30	40	30	2 ... 130	flanges DIN2531	**ZR150FA**
200	630	30	30	30	30	2 ... 110	flanges DIN2531	**ZR200FA**

M6061A1013	M6061A1021	M6061A1039	M6061L1019	M6061L1027	M6061L1035	M7061E1012	M7061E1020	
3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	0/2..10V=	0/2..10V=	Control input signal
24; 3,5	24; 3,5	24; 3,5	230; 3,5	230; 3,5	230; 3,5	24; 2,4	24; 2,4	Power supply [Vac; VA]
10	20	30	10	20	30	10	20	Torque [Nm]
•	•	–	•	•	–	•	•	**ZR15MA**
•	•	–	•	•	–	•	•	**ZR20MA**
•	•	–	•	•	–	•	•	**ZR25MA**
•	•	–	•	•	–	•	•	**ZR32MA**
•	•	–	•	•	–	•	•	**ZR40MA**
•	•	–	•	•	–	•	•	**ZR25FA**
•	•	–	•	•	–	•	•	**ZR32FA**
•	•	–	•	•	–	•	•	**ZR40FA**
–	•	–	–	•	–	–	•	**ZR50FA**
–	•	–	–	•	–	–	•	**ZR65FA**
–	–	•	–	–	•	–	–	**ZR80FA**
–	–	•	–	–	•	–	–	**ZR100FA**
–	–	•	–	–	•	–	–	**ZR125FA**
–	–	•	–	–	•	–	–	**ZR150FA**
–	–	•	–	–	•	–	–	**ZR200FA**

Four-way rotary valve PN6, compact

For heating systems; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5442A
Valve type	4-way rotary mixing, compact
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Static pressure	PN6
Port connection type	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm

DN size mm	Kvs value	Type
20	4	**V5442A1022**
20	6,3	**V5442A1030**
25	10	**V5442A1048**
32	16	**V5442A1055**

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24; 3	24; 3	230; 3	230; 3	Power supply [Vac; VA]
•	•	•	•	**V5442A1022**
•	•	•	•	**V5442A1030**
•	•	•	•	**V5442A1048**
•	•	•	•	**V5442A1055**

Four-way rotary valve PN6, compact, chrome plated

For hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5442G
Valve type	4-way rotary mixing, compact
Medium type	water
Materials	body chrome plated cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Static pressure	PN6
Port connection type	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm

DN size mm	Kvs value	Type
20	4	**V5442G1003**
20	6,3	**V5442G1011**
25	10	**V5442G1029**
32	16	**V5442G1037**

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24; 3	24; 3	230; 3	230; 3	Power supply [Vac; VA]
•	•	•	•	**V5442G1003**
•	•	•	•	**V5442G1011**
•	•	•	•	**V5442G1029**
•	•	•	•	**V5442G1037**

Three-way rotary valve PN10

For supply water, heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	DRU
Valve type	3-way rotary mixing, bypass
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 130 °C
Static pressure	PN10
Port connection type	external threads
Max. delta P	100 kPa

Universal Rotary Valve

DN size mm	Kvs value	Torque for max. delta P Nm	Type
25	2,5	10	**DRU25-2.5**
25	4	10	**DRU25-4.0**
25	6,3	10	**DRU25-6.3**
25	10	10	**DRU25-10**
25	16	10	**DRU25-16**
32	10	20	**DRU32-10**
32	16	20	**DRU32-16**
32	25	20	**DRU32-25**

H-extensions

H-extension DN25	**HE25**
H-extension DN32	**HE32**

Accessories

Welding socket with gaskets and cap nut, DN25, pipe size 25 mm	**WTU25**
Welding socket with gaskets and cap nut, DN32, pipe size 32 mm	**WTU32**
Soldering socket witch gasket and cap nut, DN25, pipe size 18 mm	**LSU25-18**
Soldering socket witch gasket and cap nut, DN25, pipe size 22 mm	**LSU25-22**
Soldering socket witch gasket and cap nut, DN25, pipe size 28 mm	**LSU25-28**
Soldering socket witch gasket and cap nut, DN32, pipe size 22 mm	**LSU32-22**
Soldering socket witch gasket and cap nut, DN32, pipe size 28 mm	**LSU32-28**
Soldering socket witch gasket and cap nut, DN32, pipe size 35 mm	**LSU32-35**
Internal threaded socket with gaskets and cap nut, DN25, pipe size 25 mm	**STU25**
Internal threaded socket with gaskets and cap nut, DN32, pipe size 32 mm	**STU32**

M6061A1013	M6061A1021	M6061L1019	M6061L1027	M7061E1012	M7061E1020	
3-pt	3-pt	3-pt	3-pt	0/2..10V=	0/2..10V=	Control input signal
24; 3,5	24; 3,5	230; 3,5	230; 3,5	24; 2,4	24; 2,4	Power supply [Vac; VA]
10	20	10	20	10	20	Torque [Nm]
•	–	•	–	•	–	**DRU25-2.5**
•	–	•	–	•	–	**DRU25-4.0**
•	–	•	–	•	–	**DRU25-6.3**
•	–	•	–	•	–	**DRU25-10**
•	–	•	–	•	–	**DRU25-16**
–	•	–	•	–	•	**DRU32-10**
–	•	–	•	–	•	**DRU32-16**
–	•	–	•	–	•	**DRU32-25**

Three-way rotary valve PN10, for systems with oxygen diffusion

For supply water, heating and air conditioning; hot/cold water quality VDI2035;
glycol water mixture 50%.
For applications with sludge deposition and for panel heating (e.g. underfloor and ceiling heating systems) with oxygen diffusion.

Valve type	3-way rotary mixing, bypass
Medium type	water
Materials	body red brass, inner parts chrome plated cast iron
Packing	double O-ring sealing
Angle of rotation	90 ^{o}
Media temp.	2 ... 130 ^{o}C
Static pressure	PN10
Port connection type	external threads
DN size	25 mm
Max. delta P	100 kPa
Torque for max. delta P	10 Nm
Additional description	Thermal insulation package included.

6

Kvs value	Type
2,5	**DRR25-2.5**
4	**DRR25-4.0**
6,3	**DRR25-6.3**
10	**DRR25-10**
16	**DRR25-16**

H-extensions

H-extension DN25	**HE25**

Accessories

Welding socket with gaskets and cap nut, DN25, pipe size 25 mm	**WTU25**
Soldering socket witch gasket and cap nut, DN25, pipe size 18 mm	**LSU25-18**
Soldering socket witch gasket and cap nut, DN25, pipe size 22 mm	**LSU25-22**
Soldering socket witch gasket and cap nut, DN25, pipe size 28 mm	**LSU25-28**
Internal threaded socket with gaskets and cap nut, DN25, pipe size 25 mm	**STU25**

M6061A1013	M6061L1019	M7061E1012	
3-pt	3-pt	0/2..10V=	Control input signal
24; 3,5	230; 3,5	24; 2,4	Power supply [Vac; VA]
10	10	10	Torque [Nm]
•	•	•	**DRR25-2.5**
•	•	•	**DRR25-4.0**
•	•	•	**DRR25-6.3**
•	•	•	**DRR25-10**
•	•	•	**DRR25-16**

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Honeywell

Inverters 0,37..5,5kW, IP20, SmartDrive Compact

Variable frequency drives for induction motors, with built-in RFI filters. EMC and LVD compliant. SmartDrive Compact is a compact size micro inverter with easy operation and commissioning. The product offers good possibilities to be used with various applications with high functionality software and 1 rating which can be used in both variable torque (HVAC applications) and constant torque (machines in industrial or process installations).

Features

- Start up wizard
- Integrated RFI-filters
- Flexible side by side mounting with screws or DIN-rail as standard
- Compact size
- Single rating suitable for both pump and fan or machine applications
- Maximum ambient temperature 50 °C; (40 °C for COMP230-2P2-20 and COMP400-5P5-20)
- Easy to use single software package with high functionality
- Parameter upload/download even without powering the inverter with COMP-LOADER accessory
- Configurable Inputs and Outputs
- Inputs/Outputs: 2 analog inputs (1 voltage + 1 current), 6 digital inputs, 3 digital outputs (2 relays + 1 open collector), 1 analog output (mA) and Modbus RTU

Series	SmartDrive Compact
RFI-filter	integrated
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	Modbus RTU
Immunity	fulfills all EMC immunity requirements
Emissions	EN61800-3 (category C2), C-Tick
Safety	EN50178, EN60204-1, EN60950, IEC61800-5, CE, UL, cUL
Protection class	IP20
More Information	http://inverter.ecc.emea.honeywell.com

208..240V, 1 phase

Voltage	Low overload (for Fan/Pump)	Low overload Icont	High overload (for Machines)	High overload Icont	Brake chopper	1 phase input	3 phases input	Type
	kW	A	kW	A				
230V	0,37	2,4	0,37	2,4	–	•	–	**COMP230-P37-20**
230V	0,75	3,7	0,75	3,7	–	•	–	**COMP230-P75-20**
230V	1,1	4,8	1,1	4,8	–	•	–	**COMP230-1P1-20**
230V	1,5	7	1,5	7	–	•	–	**COMP230-1P5-20**
230V	2,2	9,6	2,2	9,6	–	•	–	**COMP230-2P2-20**

380..480V, 3 phases

Voltage	Low overload (for Fan/Pump)	Low overload Icont	High overload (for Machines)	High overload Icont	Brake chopper	1 phase input	3 phases input	Type
	kW	A	kW	A				
400V	0,55	1,9	0,55	1,9	–	–	•	**COMP400-P55-20**
400V	0,75	2,4	0,75	2,4	–	–	•	**COMP400-P75-20**
400V	1,1	3,3	1,1	3,3	–	–	•	**COMP400-1P1-20**
400V	1,5	4,3	1,5	4,3	integrated	–	•	**COMP400-1P5-20**
400V	2,2	5,6	2,2	5,6	integrated	–	•	**COMP400-2P2-20**
400V	3	7,6	3	7,6	integrated	–	•	**COMP400-3P0-20**
400V	4	9	4	9	integrated	–	•	**COMP400-4P0-20**
400V	5,5	12	5,5	12	integrated	–	•	**COMP400-5P5-20**

Inverters 1,1..30kW, IP21/IP54, NXL HVAC

Variable speed drives for induction motors, with built-in RFI filters. EMC and LVD compliant.
The inverters are suitable for High/Low Overload (constant/variable torque) applications. To control pumps and fans for heating , ventilation and air conditioning systems, normally Low Overload ratings are used. Industrial or process installations normally require High Overload ratings.

Features
- the software is tailored to meet the typical HVAC application
- start-up wizard
- optimized I/O configuration including thermistor input
- flexible I/O configuration: 2 slots
- inputs/outputs: 2 analog inputs, 6 digital inputs, 2 relays, 1 thermistor input, 1 analog output

Series	NXL HVAC
RFI-filter	integrated
Brake chopper	integrated
Voltage	400V
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	Modbus RTU as standard; optional: LonWorks, Profibus DP, BACnet, Ethernet (Mobus/TCP), N2, DeviceNet, CANopen
Immunity	fulfills all EMC immunity requirements
Emissions	EN61800-3 (IP21: category C2, IP54: category C1)
Safety	EN50178, EN60204-1, EN60950, IEC61800-5, CE, UL, cUL
1 phase input	no
3 phases input	yes
More Information	http://inverter.ecc.emea.honeywell.com

IP21

Protection class	Low overload (for Fan/Pump) (kW)	Low overload Icont (A)	High overload (for Machines) (kW)	High overload Icont	Type
IP21	1,1	3,3	0,75	2,2	**HVAC03C2**
IP21	1,5	4,3	1,1	3,3	**HVAC04C2**
IP21	2,2	5,6	1,5	4,3	**HVAC05C2**
IP21	3	7,6	2,2	5,6	**HVAC07C2**
IP21	4	9	3	7,6	**HVAC09C2**
IP21	5,5	12	4	9	**HVAC12C2**
IP21	7,5	16	5,5	12	**HVAC16C2**
IP21	11	23	7,5	16	**HVAC23C2**
IP21	15	31	11	23	**HVAC31C2**
IP21	18,5	38	15	31	**HVAC38C2**
IP21	22	46	18,5	38	**HVAC46C2**
IP21	30	61	22	46	**HVAC61C2**

IP54

Protection class	Low overload (for Fan/Pump) (kW)	Low overload Icont (A)	High overload (for Machines) (kW)	High overload Icont	Type
IP54	1,1	3,3	0,75	2,2	**HVAC03C5**
IP54	1,5	4,3	1,1	3,3	**HVAC04C5**
IP54	2,2	5,6	1,5	4,3	**HVAC05C5**
IP54	3	7,6	2,2	5,6	**HVAC07C5**
IP54	4	9	3	7,6	**HVAC09C5**
IP54	5,5	12	4	9	**HVAC12C5**
IP54	7,5	16	5,5	12	**HVAC16C5**
IP54	11	23	7,5	16	**HVAC23C5**
IP54	15	31	11	23	**HVAC31C5**
IP54	18,5	38	15	31	**HVAC38C5**
IP54	22	46	18,5	38	**HVAC46C5**
IP54	30	61	22	46	**HVAC61C5**

Inverters 0,37..2,2kW, IP20, NXL Compact

Speed and/or torque controller for induction motors. EMC and LVD compliant with external filters. The Honeywell inverters are suitable for High/Low Overload (constant/variable torque) applications. To control pumps and fans for heating, ventilation and air conditioning systems, normally Low Overload ratings are used. Industrial or process installations normally require High Overload ratings.

Features	• 1 all-round software package included • start-up wizard • flexible I/O configuration; 1 free slot • inputs/outputs: 2 analog inputs, 3 digital inputs, 1 relay, 1 analog output
Series	NXL Compact
RFI-filter	optional
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	Modbus RTU as standard; optional: LonWorks, Profibus DP, BACnet, Ethernet (Mobus/TCP), N2, DeviceNet, CANopen
Immunity	fulfills all EMC immunity requirements
Emissions	EN61800-3 (category C2) with optional filters
Safety	EN50178, EN60204-1, EN60950, IEC61800-5, CE, UL, cUL
Protection class	IP20

208..240V, 1/3 phases

Voltage	Low overload (for Fan/Pump)	Low overload Icont	High overload (for Machines)	High overload Icont	Brake chopper	1 phase input	3 phases input	Type
	kW	A	kW	A				
230V	0,37	2,4	0,25	1,7	–	•	–	**NXL0002V32C1N0**
230V	0,75	3,7	0,55	2,8	integrated	•	•	**NXL0003V32C1N1**
230V	1,1	4,8	0,75	3,7	integrated	•	•	**NXL0004V32C1N1**
230V	1,5	6,6	1,1	4,8	integrated	•	•	**NXL0006V32C1N1**

380..500V, 3 phases

Voltage	Low overload (for Fan/Pump)	Low overload Icont	High overload (for Machines)	High overload Icont	Brake chopper	1 phase input	3 phases input	Type
	kW	A	kW	A				
400V	0,55	1,9	0,37	1,3	–	–	•	**NXL0001V35C1N0**
400V	0,75	2,4	0,55	1,9	–	–	•	**NXL0002V35C1N0**
400V	1,1	3,3	0,75	2,4	integrated	–	•	**NXL0003V35C1N1**
400V	1,5	4,3	1,1	3,3	integrated	–	•	**NXL0004V35C1N1**
400V	2,2	5,4	1,5	4,3	integrated	–	•	**NXL0005V35C1N1**

NXL Compact RFI filters (EN61800-3 category C2)

RFI filter (1 phase input)for 208..240V models; H-level	**NXLRFIV12**
RFI filter for 380..500V models; H-level	**NXLRFIV35**

Inverters 1,1..160kW, IP21/IP54, NXS

Speed controller for induction motors, with built-in RFI filters. EMC and LVD compliant.
The Honeywell inverters are suitable for High/Low Overload (constant/variable torque) applications. To control pumps and fans for heating , ventilation and air conditioning systems, normally Low Overload inverters are used. Industrial or process installations normally require High Overload inverters.

Features	• high featured software package with predefined applications • start-up wizard • detachable multilingual HMI-panel with memory and backup functions • flexible I/O configuration; 5 slots • inputs/outputs: 2 analog inputs, 6 digital inputs, 2 relays, 1 digital output, 1 thermistor input, 1 analog output
Series	NXS
Voltage	400V
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	optional: LonWorks, Modbus RTU, Profibus DP, BACnet, Ethernet (Mobus/TCP), N2, DeviceNet, CANopen
Immunity	fulfills all EMC immunity requirements
Emissions	EN61800-3 (category C2), C-Tick
Safety	EN50178, EN60204-1, EN60950, IEC61800-5, CE, UL, cUL
RFI-filter	integrated
1 phase input	no
3 phases input	yes
More Information	http://inverter.ecc.emea.honeywell.com

IP21

Protection class	Low overload (for Fan/Pump) kW	Low overload Icont A	High overload (for Machines) kW	High overload Icont A	Brake chopper	**Type**
IP21	1,1	3,1	0,75	2,2	integrated	**NXS0003V35A2H1**
IP21	1,5	4	1,1	3,1	integrated	**NXS0004V35A2H1**
IP21	2,2	5,4	1,5	4	integrated	**NXS0005V35A2H1**
IP21	3	7	2,2	5,4	integrated	**NXS0007V35A2H1**
IP21	4	9	3	7	integrated	**NXS0009V35A2H1**
IP21	5,5	12	4	9	integrated	**NXS0012V35A2H1**
IP21	7,5	16	5,5	12	integrated	**NXS0016V35A2H1**
IP21	11	22	7,5	16	integrated	**NXS0022V35A2H1**
IP21	15	31	11	22	integrated	**NXS0031V35A2H1**
IP21	18,5	38	15	31	integrated	**NXS0038V35A2H1**
IP21	22	45	18,5	38	integrated	**NXS0045V35A2H1**
IP21	30	61	22	45	integrated	**NXS0061V35A2H1**
IP21	37	72	30	61	optional	**NXS0072V35A2H0**
IP21	45	87	37	72	optional	**NXS0087V35A2H0**
IP21	55	105	45	87	optional	**NXS0105V35A2H0**
IP21	75	140	55	105	optional	**NXS0140V35A2H0**
IP21	90	170	75	140	optional	**NXS0168V35A2H0**
IP21	110	205	90	170	optional	**NXS0205V35A2H0**
IP21	132	261	110	205	optional	**NXS0260V35A2H0**
IP21	160	300	132	245	optional	**NXS0310V35A2H0**

IP54

Protection class	Low overload (for Fan/Pump) kW	Low overload Icont A	High overload (for Machines) kW	High overload Icont A	Brake chopper	**Type**
IP54	1,1	3,1	0,75	2,2	integrated	**NXS0003V35A5H1**
IP54	1,5	4	1,1	3,1	integrated	**NXS0004V35A5H1**
IP54	2,2	5,4	1,5	4	integrated	**NXS0005V35A5H1**
IP54	3	7	2,2	5,4	integrated	**NXS0007V35A5H1**
IP54	4	9	3	7	integrated	**NXS0009V35A5H1**
IP54	5,5	12	4	9	integrated	**NXS0012V35A5H1**
IP54	7,5	16	5,5	12	integrated	**NXS0016V35A5H1**
IP54	11	22	7,5	16	integrated	**NXS0022V35A5H1**
IP54	15	31	11	22	integrated	**NXS0031V35A5H1**
IP54	18,5	38	15	31	integrated	**NXS0038V35A5H1**
IP54	22	45	18,5	38	integrated	**NXS0045V35A5H1**
IP54	30	61	22	45	integrated	**NXS0061V35A5H1**
IP54	37	72	30	61	optional	**NXS0072V35A5H0**
IP54	45	87	37	72	optional	**NXS0087V35A5H0**
IP54	55	105	45	87	optional	**NXS0105V35A5H0**
IP54	75	140	55	105	optional	**NXS0140V35A5H0**
IP54	90	170	75	140	optional	**NXS0168V35A5H0**
IP54	110	205	90	170	optional	**NXS0205V35A5H0**
IP54	132	261	110	205	optional	**NXS0260V35A5H0**
IP54	160	300	132	245	optional	**NXS0310V35A5H0**

Parts and accessories for inverters

Honeywell inverter inputs/outputs can be easily configured by adding or changing option cards. These option boards are designed to easy installation even on the site and are automatically identified by the inverter software.

NXL/NXS fieldbus cards

Product description	Type
RS485 (Modbus/N2)	**NXOPTC2**
Profibus DP	**NXOPTC3**
LonWorks	**NXOPTC4**
Profibus DP (D9 type connector)	**NXOPTC5**
CANopen (slave)	**NXOPTC6**
DeviceNet	**NXOPTC7**
RS485 (D9 type connector, Modbus/N2)	**NXOPTC8**
Ethernet (Modbus/TCP)	**NXOPTCI**
BACnet (RS485)	**NXOPTCJ**

NXL/NXS input/output cards

Product description	Type
2 relays, 1 thermistor	**NXOPTB2**
1 analog input (mA), 2 analog output (mA)	**NXOPTB4**
3 relays	**NXOPTB5**

NXL only input/output cards

Product description	Type
3 digital inputs, 1 relay, 1 digital output	**NXLOPTAA**
3 digital inputs, 1 relay, 1 thermistor; (included as a standard in NXL HVAC models)	**NXLOPTAI**

NXS only input/output cards

Product description	Type
Standard NXS Slot A board: 6 DI, 1 DO (Open collector), 2 AI, 1 AO	**NXOPTA1**
Standard NXS Slot B board: 2 Relay, 1 Thermistor	**NXOPTA3**
6 digital inputs/outputs (programmable)	**NXOPTB1**
3 Pt100 input	**NXOPTB8**
1 relay, 5 Vac inputs (42..240 Vac)	**NXOPTB9**
extra RS232 connection (e.g. for 2nd keypad)	**NXOPTD3**

Parts and accessories for inverters

SmartDrive PC connection tools and cables

Product description	Type
SmartDrive Compact Parameter download/upload and PC interface tool with cable for USB connection to PC	**COMP-LOADER**
SmartDrive Compact Parameter download/upload and PC interface tool without cable	**COMP-LOADER-NC**
SmartDrive 3.0m USB PC connection cable	**SMARTDRIVE-USBC**

NXL/NXS PC connection tools and cables

Product description	Type
NXL RS232 adapter (for PC connection)	**NXLPANRS**
2 m RS232 cable	**RS232C2M**
4 m RS232 cable	**RS232C-4M**
15 m RS232 cable	**RS232C15.0M**

NXL Display panels

Product description	Type
NXL standard 7-segment display	**NXLPANC**

NXS Display panels

Product description	Type
NXS standard alpha-numeric display	**NXPANA**
NXS special display for Cyrillic or Chinese letters	**NXPANG**

Parts and accessories for inverters

Display panel door mounting kits

Product description	Type
NXL door installation set for display panel, 2m cable	**DRA-02L**
NXL door installation set for display panel, 4m cable	**DRA-04L**
NXS door installation set for display panel, 2m cable	**DRA02B**
NXS door installation set for display panel, 4m cable	**DRA-04B**
NXS door installation set for display panel, 15m cable	**DRA15B**

SmartDrive COMPACT IP20 to IP21 upgrade kits

Product description	Type
IP21 enclosure upgrade kit for SmartDrive Compact size MI1	**COMP-IP21-KIT1**
IP21 enclosure upgrade kit for SmartDrive Compact size MI2	**COMP-IP21-KIT2**
IP21 enclosure upgrade kit for SmartDrive Compact size MI3	**COMP-IP21-KIT3**

NXL HVAC/NXS IP21 to IP54 upgrade kits

Product description	Type
IP54 enclosure upgrade kit for NXL HVAC/NXS size 4 (HVAC03-HVAC12, NXS0003-NXS0012)	**NXIP54FR4**
IP54 enclosure upgrade kit for NXL HVAC/NXS size 5 (HVAC16-HVAC31, NXS0016-NXS0031)	**NXIP54FR5**
IP54 enclosure upgrade kit for NXL HVAC/NXS size 6 (HVAC38-HVAC61, NXS0038-NXS0061)	**NXIP54FR6**

NXL/NXS Sine-wave output filters 380-500V, IP00 Selection to be done so that the nominal current of the inverter cannot exceed the nominal current of the filter

Product description	Type
Filter for Nominal current of 10 A (40°C), 8,8 A (50°C)	**SIN-0010-5-0-P**
Filter for Nominal current of 18 A (40°C), 16 A (50°C)	**SIN-0018-5-0-P**
Filter for Nominal current of 32 A (40°C), 28 A (50°C)	**SIN-0032-5-0-P**
Filter for Nominal current of 48 A (40°C), 42 A (50°C)	**SIN-0048-5-0-P**
Filter for Nominal current of 75 A (40°C), 66 A (50°C)	**SIN-0075-5-0-P**
Filter for Nominal current of 110 A (40°C), 97 A (50°C)	**SIN-0110-5-0-P**
Filter for Nominal current of 180 A (40°C), 155 A (50°C)	**SIN-0180-5-0-P**

Main cooling fan spare parts for inverters

Product description	Type
NXL Compact sparepart fan for size 3 (NXL0003-NXL0006)	**NX-FAN-3**
NXL HVAC / NXS spare part fan size 4 (HVAC03-HVAC12, NXS0003-NXS0012)	**NX-FAN-4**
NXL HVAC / NXS spare part fan size 5 (HVAC16-HVAC31, NXS0016-NXS0031)	**NX-FAN-5**
NXL HVAC / NXS spare part fan size 6 (HVAC38-HVAC61, NXS0038-NXS0061)	**NX-FAN-6**
NXS spare part fan size 7 (NXS0072-NXS0105)	**NX-FAN-7**

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Honeywell

CentraLine air quality sensor

For detection of unpleasant odours, tobacco smoke, and vapours emitted by such materials as furniture, carpets, paint, glue, etc.

Protection class	IP30
Output signal	0..10Vdc
Power supply	24 Vacdc; 1 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 104 mm; 33 mm
LED functions	air quality indication
Additional description	Adjustable output offset.

Type
CLCMNA172B

CentraLine room temperature/ CO2 sensor

For sensing or controlling of CO_2 concentration; and temperature measurement in buildings.

Protection class	IP30
Output signal	the following CO_2 output signals are applicable, analog or digital • 0..10V for 0..2000 ppm (factory setting) • 0..10 V or 2..10 V for 0..2000 ppm or 0..3000 ppm (configurable) • digital output with adjustable CO_2 setpoint and hysteresis for ventilation on/off
Power supply	24 Vacdc; 2,8 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 104 mm; 33 mm

Temperature element	Temperature range °C	Setpoint knob K	Extra setp. knob °C	Occupancy switch	Wiring terminals	LED functions	Type
–	–	–	–	–	3	CO2 indicator	**CLCM1C155**
NTC20k	6 ... 40	-5 ... 5	12 ... 30	auto/bypass	7	occupancy	**CLCM4C155**

Accessories

Blind covers for setpoint wheel to prevent unauthorized setpoint changes (25 pieces)	**WMSPS-2**
PC interface cable (PC software on request)	**HDI10**

CentraLine room temperature sensors

Protection class	IP30
Temperature element	NTC20k
Mounting place	internal wall
Housing (HxWxD)	104 mm; 104 mm; 33 mm

Temperature range °C	Setpoint knob K	Extra setp. knob °C	Occupancy switch	Fan switch	Wiring terminals	LED functions	Note	Type
6 ... 40	–	–	–	–	2	–	–	**CLCM1T11N**
6 ... 40	-5 ... 5	12 ... 30	–	–	3	–	–	**CLCM2T11N**
-15 ... 40	-7 ... 7	–	auto/off/on	–	5	error indication	not for SERVAL	**CLCM3T111**
6 ... 40	-5 ... 5	12 ... 30	auto/bypass	–	7	–	–	**CLCM4T111**
6 ... 40	-5 ... 5	12 ... 30	auto/bypass	auto/off/on	7	–	–	**CLCM5T111**
6 ... 40	-5 ... 5	12 ... 30	auto/bypass	auto/off/1/2/3	7	–	–	**CLCM6T111**

Blind covers for setpoint wheel to prevent unauthorized setpoint changes (25 pieces)	**WMSPS-2**

CentraLine room temperature/R.H. sensor

Protection class	IP30
Temperature element	NTC20k
Temperature range	6 ... 40 °C
R.H. range	5 ... 95 %rh
R.H. sensing element	capacitive
R.H. output signal	0..10V=
Power supply	24 Vacdc; 0,15 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 104 mm; 33 mm
Wiring terminals	4

	Type
	CLCM1H112

CentraLine room temperature/R.H. sensor, with display

Room temperature sensor with digital display. Model with R.H.-sensor.

Display functions	room temperature, setpoint temperature, occupancy status, fan speed status, humidity
Protection class	IP30
Temperature element	NTC20k
Temperature range	6 ... 40 °C
Setpoint knob	-5 ... 5 K
Extra setp. knob	12 ... 30 °C
Occupancy switch	on/off
Fan switch	auto/off/1/2/3
Power supply	24 Vac; 0,5 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 104 mm; 33 mm
Additional description	Tool-free configuration: • number of fan speeds • relative / absolute setpoint • enable/disable space temperature display

R.H. range %rh	R.H. sensing element	R.H. output signal	Wiring terminals	Type
–	–	–	7	**CLCM6T21N**
5 ... 95	capacitive	0..10V=	8	**CLCM6H212**

Blind covers for setpoint wheel to prevent unauthorized setpoint changes (25 pieces)	**WMSPS-2**

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Temperature sensors NTC

Wall modules for heating applications

Room temperature sensor for Excel 10 and Excel 50..800 controllers. With setpoint adjustment, occupancy extension.

LED functions	LED on or blinking in case of bypass, LED functions programmable with Excel 20..800 controllers
Temperature element	NTC20k
Temperature range	-15 ... 40 °C
Setpoint knob	-7 ... 7 °C
Occupancy switch	auto/off/on
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Models with setpoint potentiometer delivered with 4 setpoint wheels; white and blue, relative and absolute scale.

Product description	Type
Sensor with setpoint wheel	**T7460H**
Sensor with pushbuttons for setpoint adjustment and display	**T7560H**

Room temperature sensor NTC, economy

Protection class	IP30
Temperature element	NTC20k
Temperature range	6 ... 40 °C
Mounting place	internal wall
Housing (HxWxD)	56 mm; 46 mm; 19,3 mm
Wiring terminals	2
Type of terminals	spring
Additional description	T7470A1009 will be delivered as one set of 5 sensors.

	Type
	T7470A1009

Room temperature sensor, NTC

Protection class	IP30
Temperature range	10 ... 40 °C
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm

Temperature element	Wiring terminals	Type
NTC20k	2	**RF20**
2 x NTC20k	3	**DRF20-S**

Temperature sensors NTC

Room temperature sensor, setpoint unit, IRC style

Room temperature sensor. Models with remote control point adjustment unit.

Protection class	IP30
Mounting place	internal wall
Temperature element	NTC20k
Temperature range	0 ... 50 °C
Housing (HxWxD)	130 mm; 80 mm; 34 mm

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
2	–	–	–	**T7412A1000**

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
3	- ... +	–	–	**T7412B1008**

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	on/off	–	**T7412C1006**

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	–	auto/off/1/2/3	**T7412D1004**

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Temperature sensors NTC

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
5	–	–	–	**T7412E1027**

Water temperature sensor, NTC

Water temperature sensor with well or strap-on.
Immersion with well

Temperature element	Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Wiring terminals	Protection class	Type
NTC10k	-25 ... 130	in pipe	brass	R1/2"	135	2	IP54	**VF10T**
NTC20k	-25 ... 130	in pipe	brass	R1/2"	135	2	IP30	**VF20T**
NTC20k	-25 ... 150	in pipe	stainless steel	R1/2"	135	2	IP30	**VF20NT**
NTC20k	-25 ... 130	in pipe	brass	R1/2"	300	2	IP30	**VF20L**
NTC20k	-25 ... 150	in pipe	stainless steel	R1/2"	300	2	IP30	**VF20LN**
2 x NTC20k	-25 ... 130	in pipe	brass	R1/2"	135	3	IP30	**WPF20T**
2 x NTC20k	-25 ... 130	in pipe	brass	R1/2"	300	3	IP30	**WPF20L**

Strap-on

Temperature element	Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Wiring terminals	Protection class	Type
NTC10k	0 ... 110	strap on pipe	–	–	–	2	IP54	**VF10A**
NTC20k	0 ... 110	strap on pipe	–	–	–	2	IP30	**VF20A**
2 x NTC20k	0 ... 110	strap on pipe	–	–	–	4	IP30	**WPF20A**

Temperature sensors NTC

Water temperature sensor NTC, fast reaction time

Sensor for direct mounting in pipe, G1/2" connection.
For water temperature measurement in district heating or hot water supply.

Protection class	IP65
Temperature element	NTC20k fast
Temperature range	-20 ... 140 °C
Mounting place	in pipe
Cable length	2,5 m
Additional description	Reaction time max. 2 sec. Sensing material steel 1.4571. Immersion depth adjustable.

Immersion depth mm	Sensing element (dia x L) mm; mm	Type
max. 75	4; 25	**T7425A1005**
max. 220	4; 170	**T7425A1013**
max. 300	4; 250	**T7425A1021**

Water temperature sensor NTC, cable type

Watertight temperature sensor with sensor cartridge.

Protection class	IP64
Temperature range	-20 ... 110 °C
Mounting place	universal
Immersion depth	min. 50 mm
Applicable well length	135 mm
Sensing element (dia x L)	6,5 mm; 50 mm
Cable length	2 m
Additional description	KTF20-B (bulk of 50 sensors of Type KTF20)

Temperature element	Wiring terminals	Type
NTC20k	2	**KTF20**
NTC20k	2	**KTF20-B**
2 x NTC20k	3	**DKF20**

Wells

Brass well 135 mm R1/2"	**VFHT**
Steel well 135 mm R1/2"	**VFNT**

Temperature sensors NTC

Outdoor, strap-on temperature sensor

Mounting place	outdoor/strap-on
Protection class	IP65
Temperature range	-30 ... 70 °C
Temperature element	NTC20k

Cable length m	Type
1	**T7414C1012**
10	**T7414C1012-10M**

Outdoor temperature sensor NTC

Mounting place wall outside

Temperature element	Temperature range °C	Housing (HxWxD) mm; mm; mm	Wiring terminals	Approvals	Protection class	Type
NTC20k	-30 ... 60	95; 65; 70	2	–	IP30	**AF20**
2 x NTC20k	-30 ... 60	95; 65; 70	4	–	IP30	**DAF20**

Temperature element	Temperature range °C	Housing (HxWxD) mm; mm; mm	Wiring terminals	Approvals	Protection class	Type
NTC10k	-40 ... 70	72; 49; 37	2	IEC751 class B	IP54	**T7416A1030**
NTC20k	-40 ... 70	72; 49; 37	2	IEC751 class B	IP54	**T7416A1022**

Air duct temperature sensor, NTC

Temperature range	-40 ... 80 °C
Mounting place	air duct
Wiring terminals	2
Additional description	Humidity 5..95 %rh, non condensing.

Temperature element	Immersion depth mm	Cable length m	Protection class	Type
NTC10k	300	–	IP54	**LF10**
NTC20k	300	–	IP30	**LF20**

Temperature element	Immersion depth mm	Cable length m	Protection class	Type
NTC20k	300	5	IP65	**LF20-C**

Flexible probe

Temperature element	Immersion depth mm	Cable length m	Protection class	Type
NTC20k	max. 400	–	IP54	**T7411B1009**

Temperature sensors NTC

Air duct temperature sensor, average measurement

Averaging temperature sensor, with wall socket, flexible rod, a 0,5 m long connector cable and four rod clips with screws.
For application in ducts where large temperature gradients can occur.

Temperature element	4 x NTC20k
Temperature range	-30 ... 70 °C
Mounting place	air duct
Wiring terminals	2
Additional description	The 3 meters flexible rod has four sensors positioned along the length of the rod.

Type
C7085A1014

Unit temperature sensor

Temperature sensor for air handling units, fancoil units or air outlets.

Protection class	IP54
Mounting place	air duct
Temperature range	0 ... 70 °C
Wiring terminals	2
Additional description	Sensor supplied with mounting bracket. Sensing element size: diameter 10 mm, length 50 mm.

Temperature element	Cable length m	Type
NTC10k	1,5	**C7068A1030**
NTC20k	1,5	**C7068A1007**
NTC20k	5	**C7068A1007-5M**

Temperature sensors NTC

Earth temperature sensor, NTC

For use in greenhouses and similar applications

Protection class	IP62
Temperature element	NTC20k
Temperature range	-20 ... 34 °C
Mounting place	greenhouse, earth
Wiring terminals	2
Cable length	5 m

Type
EF20

Damp-proof temperature sensor, NTC

for use in greenhouses and similar applications

Approvals	IEC144
Protection class	IP30
Temperature range	-20 ... 30 °C
Mounting place	greenhouse, air
Cable length	5 m

Temperature element	Wiring terminals	Type
NTC20k	2	**GF20**
2 x NTC20k	3	**DGF20**

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Temperature sensors Pt100/Pt1000

Room temperature sensor Pt100/Pt1000, setpoint unit

Room temperature sensor. Models with remote control point adjustment unit.

Mounting place	internal wall
Approvals	IEC751 Class B
Protection class	IP30
Temperature range	0 ... 50 °C
Housing (HxWxD)	130 mm; 80 mm; 34 mm

Temperature element	Setpoint knob °C	Wiring terminals	Type
Pt100	–	2	**T7412A1059**
Pt1000	–	2	**T7412A1018**
Pt1000	- ... +	4	**T7412B1016**
Pt1000	-15 ... 30	5	**T7412B1040**

Water temperature sensor

Water immersion temperature sensor with or without well.

Approvals	IEC751 class B
Protection class	IP54
Temperature element	Pt1000
Wiring terminals	2

Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Type
-25 ... 130	in pipe	brass	R1/2"	135	**T7413A1009**
-25 ... 150	in well	–	–	max. 135	**T7413A1041**
-25 ... 150	in well	–	–	max. 300	**T7413A1058**

Wells

Brass well 135 mm R1/2"	**VFHT**
Steel well 135 mm R1/2"	**VFNT**
Brass well 300 mm R1/2"	**VFL**
Steel well 300 mm R1/2"	**VFLN**

Water temperature sensor, strap-on

Approvals	IEC751 class B
Protection class	IP54
Temperature element	Pt1000
Temperature range	0 ... 110 °C
Mounting place	strap on pipe
Wiring terminals	2

	Type
	T7414A1008

Temperature sensors Pt100/Pt1000

Water temperature sensor Pt1000, fast reaction time

Sensor for direct mounting in pipe, G1/2" connection.
For water temperature measurement in hot water supply, solar panels etc.

Protection class	IP65
Temperature element	Pt1000 fast
Temperature range	-20 ... 300 °C
Mounting place	in pipe
Cable length	2,5 m
Additional description	Reaction time max. 2 sec. Sensing material steel 1.4571. Immersion depth adjustable.

Immersion depth mm	Sensing element (dia x L) mm; mm	Type
max. 75	4; 75	**T7425B1011**
max. 220	4; 220	**T7425B1029**

Water temperature sensor, cable type

Approvals	IEC751 class B
Protection class	IP54
Temperature element	Pt1000
Mounting place	universal
Immersion depth	min. 50 mm
Applicable well length	135 mm
Sensing element (dia x L)	6 mm; 50 mm
Wiring terminals	2
Cable length	2,5 m

Temperature range °C	Type
-20 ... 100	**T7415A1007**
-20 ... 300	**T7415A1015**

Brass well 135 mm R1/2"	**VFHT**
Steel well 135 mm R1/2"	**VFNT**

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Temperature sensors Pt100/Pt1000

Outdoor, strap-on temperature sensor

Approvals	IEC751 class B
Protection class	IP65
Temperature element	Pt1000
Temperature range	-30 ... 70 °C
Mounting place	outdoor/strap-on
Wiring terminals	2
Cable length	1 m

Type
T7414C1004

Outdoor temperature sensor

Approvals	IEC751 class B
Protection class	IP54
Temperature element	Pt1000
Temperature range	-40 ... 70 °C
Mounting place	wall outside
Housing (HxWxD)	72 mm; 49 mm; 37 mm
Wiring terminals	2

Type
T7416A1014

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Air duct temperature sensor Pt100/Pt1000

Approvals	IEC751 class B
Protection class	IP54
Temperature range	-40 ... 80 °C
Mounting place	air duct
Wiring terminals	2

Temperature element	Immersion depth (mm)	Type
Pt100	135	**T7411A1043**
Pt1000	135	**T7411A1001**
Pt1000	300	**T7411A1019**

Flexible probe

Temperature element	Immersion depth mm	Type
Pt1000	max. 400	**T7411B1017**

Temperature sensors Pt100/Pt1000

Air duct temperature sensor, average measurement

Averaging temperature sensor, with wall socket, flexible rod, a 0,5 m long connector cable and four rod clips with screws.
For application in ducts where large temperature gradients can occur.

Temperature element	4 x Pt1000
Temperature range	-30 ... 70 °C
Mounting place	air duct
Wiring terminals	2
Additional description	The 3 meters flexible rod has four sensors positioned along the length of the rod.

Type
C7085A1006

Flue gas temperature sensor

Steel plug in temperature sensor with mounting flange.
For flue gas temperature measurement.

Temperature element	Pt1000
Temperature range	0 ... 320 °C
Media temp. limit	temperatures up to 400 °C are allowable for short periods
Mounting place	flue gas vent
Immersion depth	120 mm
Cable length	1 m
Additional description	Supplied with electrical cable with steel casing.

Type
AGF1

R.H. (+ temperature) sensors

Wall module with temperature and R.H. sensor

Temperature element	NTC20k
Temperature range	10 ... 40 °C
R.H. range	5 ... 90 %rh
R.H. sensing element	capacitive
R.H. output signal	0..10V=
Power supply	24 Vacdc; 0,15 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Wiring terminals	5

	Type
	T7560C1006

Room R.H.- and temperature sensor

Combined Room Humidity and Temperature Sensor with various sensor elements

Approvals	IEC751 class B for Pt1000 sensor
Protection class	IP30
R.H. range	5 ... 95 %rh
R.H. sensing element	capacitive
R.H. output signal	0..1/10V=
Power supply	24 Vac; 0,48 VA
Mounting place	internal wall
Housing (HxWxD)	130 mm; 80 mm; 34 mm

Temperature element	Temperature range °C	Wiring terminals	Type
–	–	4	**H7012A1009**
Pt1000	0 ... 50	6	**H7012B1007**
NTC20k	0 ... 50	6	**H7012B1023**

R.H. (+ temperature) sensors

Outdoor R.H.- and temperature sensor

Protection class	IP33
Temperature range	-30 ... 50 °C
R.H. range	5 ... 95 %rh
R.H. sensing element	capacitive
R.H. output signal	0..1/10V=
Power supply	24 Vac; 0,48 VA
Mounting place	wall outside
Housing (HxWxD)	172 mm; 132 mm; 60 mm
Wiring terminals	6

Temperature element	Type
Balco500	**H7508A1034**
Pt1000	**H7508A1026**
NTC20k	**H7508A1042**

Air duct R.H.- and temperature sensor

Protection class	IP54
R.H. range	5 ... 95 %rh
R.H. sensing element	capacitive
R.H. output signal	0..1/10V=
Power supply	24 Vac; 0,48 VA
Mounting place	air duct
Immersion depth	235 mm

Temperature element	Temperature range °C	Wiring terminals	Type
–	–	5	**H7015A1006**
Balco500	-30 ... 70	7	**H7015B1012**
Pt1000	-30 ... 70	7	**H7015B1004**
NTC20k	-30 ... 70	7	**H7015B1020**

Room temperature sensor, setpoint unit, IRC style

Room temperature sensor. Models with remote control point adjustment unit.

Protection class	IP30
Mounting place	internal wall
Temperature element	NTC20k
Temperature range	0 ... 50 °C
Housing (HxWxD)	130 mm; 80 mm; 34 mm

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
2	–	–	–	**T7412A1000**

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
3	- ... +	–	–	**T7412B1008**

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	on/off	–	**T7412C1006**

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	–	auto/off/1/2/3	**T7412D1004**

IRC/XL10 sensors, Wall modules

Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
5	–	–	–	**T7412E1027**

Remote setpoint adjustment unit for IRC or XL10

Remote setpoint adjustment unit.

Mounting	fancoil unit
Protection class	IP30
Setpoint knob	- ... + °C
Cable length	2 m
Housing (HxWxD)	75 mm; 70 mm; 22 mm

Wiring terminals	Fan switch	Model	Type
2	–	for XL IRC	**S7014A1004**

Wiring terminals	Fan switch	Model	Type
3	auto/off/1/2/3	for XL IRC	**S7014B1000**
3	auto/off/1/2/3	for XL10	**S7014C1009**

Wall modules for EXCEL 5000 controllers

Room temperature sensor for Excel 10 and Excel 50..800 controllers. Models available with setpoint adjustment, occupancy extension and fan switch.

LED functions	LED on or blinking in case of bypass, LED functions programmable with Excel 20..800 controllers
Temperature element	NTC20k
Temperature range	10 ... 35 °C
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Models with setpoint potentiometer delivered with 4 setpoint wheels; white and blue, relative and absolute scale.

Setpoint knob (°C)	Extra setp. knob (°C)	Occupancy switch	Fan switch	Type
–	–	–	–	**T7460A1001**
-5 ... 5	12 ... 30	–	–	**T7460B1009**
-5 ... 5	12 ... 30	auto/bypass	–	**T7460C1007**
-5 ... 5	12 ... 30	–	auto/off/1/2/3	**T7460D1005**
-5 ... 5	12 ... 30	auto/bypass	auto/off/on	**T7460E1002**
-5 ... 5	12 ... 30	auto/bypass	auto/off/1/2/3	**T7460F1000**

LON connection board	**T7460LONJACK**
Setpoint range limiter	**T7460LIMITER**

Wall modules for EXCEL 5000 controllers, with display

Room temperature sensor with digital display, for Excel 10 and Excel 50..800 controllers. With setpoint adjustment, occupancy extension, fan speed button and on/off button. Model with R.H.-sensor.

Display functions	room temperature, setpoint temperature, occupancy status, fan speed status
Temperature element	NTC20k
Temperature range	10 ... 40 °C
Setpoint knob	-5 ... 5 °C
Extra setp. knob	12 ... 30 °C
Occupancy switch	on/off
Fan switch	configurable
Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Tool-free configuration: • number of fan speeds • relative / absolute setpoint • enable/disable space temperature display • centigrade/fahrenheit

R.H. range %rh	R.H. sensing element	R.H. output signal	Wiring terminals	Model	Type
–	–	–	7	blue knobs/wheel	**T7560A1000**
–	–	–	7	white knobs/wheel	**T7560A1026**
–	–	–	7	white knobs/wheel/ fahrenheit	**T7560A1018**
5 ... 90	capacitive	0..10V=	8	blue knobs/wheel	**T7560B1008**
5 ... 90	capacitive	0..10V=	8	white knobs/wheel	**T7560B1024**
5 ... 90	capacitive	0..10V=	8	white knobs/wheel/ fahrenheit	**T7560B1016**

LON connection board	**T7460LONJACK**
Blind cover for T7560 knobs (50 pieces)	**T7560BLINDS**

Pressure switch for liquid, gas (DCM)

For overpressure monitoring of non-aggressive liquids and gaseous media.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-307**: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 • **-217**: two microswitches, 1 plug, switching in succession, adjustable switching interval • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i

Fixed pressure hysteresis

Pressure adjustment range	Adjustable switching differential	Switching differential	Max. pressure	Sensing element material	Type
bar	bar	bar	bar		
0,04 ... 0,25	–	0,03	6	Copper + Brass	**DCM025**
0,1 ... 0,6	–	0,04	6	Copper + Brass	**DCM06**
0,2 ... 1,6	–	0,04	6	Copper + Brass	**DCM1**
0,2 ... 2,5	–	0,1	16	1.4104 + 1.4571	**DCM3**
0,5 ... 6	–	0,15	16	1.4104 + 1.4571	**DCM6**
0,5 ... 6	–	0,25	25	1.4104 + 1.4571	**DCM625**
1 ... 10	–	0,3	25	1.4104 + 1.4571	**DCM10**
3 ... 16	–	0,5	25	1.4104 + 1.4571	**DCM16**
4 ... 25	–	1	60	1.4104 + 1.4571	**DCM25**
8 ... 40	–	1,3	60	1.4104 + 1.4571	**DCM40**
16 ... 63	–	2	130	1.4104 + 1.4571	**DCM63**
0,04 ... 0,25	–	0,03	6	1.4104 + 1.4571	**DNM025**

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Sensing element material	**Type**
0,04 ... 0,25	0,03 ... 0,4	–	6	Copper + Brass	**DCMV025**
0,1 ... 0,6	0,04 ... 0,5	–	6	Copper + Brass	**DCMV06**
0,2 ... 1,6	0,07 ... 0,55	–	6	Copper + Brass	**DCMV1**
0,2 ... 2,5	0,15 ... 1,5	–	16	1.4104 + 1.4571	**DCMV3**
0,5 ... 6	0,25 ... 2	–	16	1.4104 + 1.4571	**DCMV6**
1 ... 10	0,5 ... 2,8	–	25	1.4104 + 1.4571	**DCMV10**
3 ... 16	0,7 ... 3,5	–	25	1.4104 + 1.4571	**DCMV16**
4 ... 25	1,3 ... 6	–	60	1.4104 + 1.4571	**DCMV25**
8 ... 40	2,6 ... 6,6	–	60	1.4104 + 1.4571	**DCMV40**
16 ... 63	3 ... 10	–	130	1.4104 + 1.4571	**DCMV63**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Differential pressure switch for liquid, gas (DDCM)

For flow monitoring and differential pressure control of steam, gas, hot/cold water and automatic checking of filter plant.

Kind of pressure	differential pressure, relative
Pressure connection	internal thread G1/4
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-205**: maximum limiter with reclosing lock-out, interlocking with increasing pressure • **-206**: Minimum limiter with reclosing lock-out, interlocking with falling pressure • **-307**: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 (with the exception of DDCM252, 662, 1602, 6002) • **-217**: two microswitches, 1 plug, switching in succession, adjustable switching interval (with the exception of DDCM252, 662, 1602, 6002) • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,004 ... 0,025	0,002	0,5	Perbunan + Aluminium	**DDCM252**
0,01 ... 0,06	0,015	1,5	Perbunan + Aluminium	**DDCM662**
0,02 ... 0,16	0,02	3	Perbunan + Aluminium	**DDCM1602**
0,1 ... 0,6	0,035	3	Perbunan + Aluminium	**DDCM6002**
-0,1 ... 0,4	0,15	15	1.4305 + 1.4571	**DDCM014**
0,2 ... 1,6	0,13	15	1.4305 + 1.4571	**DDCM1**
1 ... 4	0,2	25	1.4305 + 1.4571	**DDCM4**
0,5 ... 6	0,2	15	1.4305 + 1.4571	**DDCM6**
3 ... 16	0,6	25	1.4305 + 1.4571	**DDCM16**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Differential pressure switch for air (DPS)

Filter monitor or flow switch for air, non-combustible, non aggressive gases in air conditioning and ventilating installations.

Kind of pressure	overpressure, relative
Pressure connection	plastic connection piece for 5 mm (internal) hose
Electrical connection	AMP connector 6,3x0,8 (DIN 46244) or screw terminals
Protection class	IP54
Sensing element material	ABS + Silicon
Media temp.	-20 ... 85 °C
Ambient temperature	-20 ... 85 °C
Switch function/capacity	SPDT switch 240 Vac; 1,5 A (0.4)A
Certificates	CE0085AR0013 according DIN EN 1854
Max. pressure	50 mbar
Additional description	Accessories supplied with pressure switch: 2 m silicon hose, 2 connection pieces with mounting screws, 2 self tapping screws for mounting on housing, 3 screw terminals for electrical connection.

Pressure adjustment range Pa	Switching differential mbar	Type
20 ... 200	0,1	**DPS200**
40 ... 400	0,2	**DPS400**
50 ... 500	0,2	**DPS500**
200 ... 1000	1	**DPS1000**
500 ... 2500	1,5	**DPS2500**

Accessories

L-shaped bracket for installation turned by 90°, e.g. in the ceiling area	**DPSL**

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Pressure monitor for hot water, steam, gas, fuel (DWR)

For overpressure monitoring of steam, hot water, burnable gases, liquid fuels.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Mechanical lock/reset	with special function possible
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-513**: Gold-plated contacts, single-pole switch-over. Switching differential permanent. IP65. Switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA, suitable isolating switching amplifier, degree of protection EEx-i • **-574**: Normally closed contact with resistance combination for minimum pressure monitoring. Gold-plated contacts. Housing with surface protection (chemical version), IP65 • **-575**: Normally closed contact with reclosing lock-out resistance combination for minimum pressure monitoring. Housing with surface protection (chemical version), IP65 • **-576**: Normally closed contact with resistance combination for maximum pressure monitoring. Gold-plated contacts. Housing with surface protection (chemical version), IP65 • **-577**: Normally closed contact with reclosing lock-out and resistance combination for maximum pressure monitoring. Housing with surface protection (chemical version), IP65
Certificates	• ID 0000007042 according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • NG-4347AQ1411 according to DIN 3398, Part 3, Issue 11.92 • 3C028/5 according to DIN 3398, Part 4, Issue 10.86 • CE0035BN004 according Directive 97/23/EC (Module B + D) • SIL2 according IEC 61508

Fixed pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	**Type**
0,1 ... 0,6	–	0,04	6	6	**DWR06**
0,2 ... 1,6	–	0,06	6	6	**DWR1**
0,2 ... 2,5	–	0,1	16	10	**DWR3**
0,5 ... 6	–	0,2	16	10	**DWR6**
0,5 ... 6	–	0,25	25	20	**DWR625**
3 ... 16	–	0,5	25	20	**DWR16**
4 ... 25	–	1	63	50	**DWR25**
8 ... 40	–	1,3	63	50	**DWR40**

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	**Type**
0,1 ... 0,6	0,08 ... 0,5	–	6	6	**DWR06-203**
0,2 ... 1,6	0,15 ... 0,6	–	6	6	**DWR1-203**
0,2 ... 2,5	0,17 ... 1,2	–	16	10	**DWR3-203**
0,5 ... 6	0,3 ... 1,4	–	16	10	**DWR6-203**
0,5 ... 6	0,4 ... 2,5	–	25	20	**DWR625-203**
3 ... 16	0,75 ... 3,15	–	25	20	**DWR16-203**
4 ... 25	1,3 ... 6	–	63	50	**DWR25-203**
8 ... 40	2,3 ... 6,6	–	63	50	**DWR40-203**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Minimum pressure limiter for hot water, steam, fuel, gas (DWR-B)

For minimum-pressure detection of steam, hot water, burnable gases, liquid fuels.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Certificates	• ID 0000007042 according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • ID 0000020757 according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • NG-4347AQ1411 according DIN 3398, part 3, issue 11.92 • 3C028/5 according to DIN 3398, Part 4, Issue 10.86 • CE0035BN0004 according Directive 97/23EC (Module B + D) • SIL2 according IEC 61508
Pressure interlock/Reset	minimum press./button

Pressure adjustment range bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	Type
0,1 ... 0,6	6	6	**DWR06-206**
0,2 ... 1,6	6	6	**DWR1-206**
0,2 ... 2,5	16	10	**DWR3-206**
0,5 ... 6	16	10	**DWR6-206**
0,5 ... 6	25	20	**DWR625-206**
3 ... 16	25	20	**DWR16-206**
4 ... 25	63	50	**DWR25-206**
8 ... 40	63	50	**DWR40-206**

Syphon for high temperature, steel, U-shape, for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Maximum pressure limiter of 'special construction' (SDB)

Maximum pressure limiter with selfmonitoring sensor and internal relock
For steam and hot water.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Sensing element material	1.4104 + 1.4571
Media temp.	-20 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-20 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Certificates	• TUEV-SDB-04-134 according VdTUEV Memorandum Pressure 100/1 • CE0035BN0007 according Directive 97/23/EC (Module B + D) • SIL3 according IEC 61508
Pressure interlock/Reset	maximum press./button

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Type
0,2 ... 1,6	0,12	5	**SDBAM1**
0,4 ... 2,5	0,15	5	**SDBAM2,5**
1,2 ... 6	0,4	10	**SDBAM6**
1,2 ... 6	0,6	20	**SDBAM625**
3 ... 16	0,8	20	**SDBAM16**
6 ... 32	3	45	**SDBAM32**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Electronic Pressure switch for liquid, high viscosity/roiled liquid (SmartPress)

Electronic Pressure switch, with LCD display for the field of plant construction, fluidics, process technology, and pneumatics, as well as in the monitoring and control of pumps and compressors. Models available with the following output types:

- all models: switch output open collector; 14..36 Vdc, 250 mA
- PST -series: transmitter output; 0..10 Vdc or 4..20 mA
- PST..R -series: relay output with gold plated SPDT contact

Protection class	IP65
Housing material	Polybutylene terephtalate (PBT)
Sensing element material	1.4571 + 1.4435
Media temp.	-20 ... 100 °C
Media temp. limit	Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap)
Ambient temperature	-20 ... 60 °C
Switch function/capacity	PST-models: Open collector switch max. 250 mA dc at 14 ... 36 Vdc. PST..R-models with relay contact output, 1 x SPDT, material silver gold plated. Capacity resistive: 24 Vdc, 60 mA / 230 Vac, 6,5 mA. With bigger loads, the gold layer will disappear, the capacity with the silver contacts is: 230 Vac 3(1) A.
Additional description	• **Applicable parameter settings:** • switching Set / Reset points • filters • analog output range • electrical drag indicator • **Applicable configurations:** • Max-Min, Window monitor • Analog output signal • Pressure unit • Simulation mode

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Switch + Transmitter, PST ...-models

Pressure range bar	Max. pressure bar	Kind of pressure	Type
-1 ... 1	6	vacuum, relative	**PSTV01RG34F**
0 ... 0,25	1	overpressure, relative	**PSTM250RG34F**
0 ... 0,4	2	overpressure, relative	**PSTM400RG34F**
0 ... 0,6	2	overpressure, relative	**PSTM600RG34F**
0 ... 1	6	overpressure, relative	**PST001RG34F**
0 ... 1,6	6	overpressure, relative	**PST002RG34F**
0 ... 4	12	overpressure, relative	**PST004RG34F**
0 ... 10	30	overpressure, relative	**PST010RG34F**
0 ... 25	75	overpressure, relative	**PST025RG34F**
0 ... 2	6	absolute	**PST002AG34F**
0 ... 10	30	absolute	**PST010AG34F**

Switch + Transmitter + Relay output, PST..R -models

Pressure range bar	Max. pressure bar	Kind of pressure	**Type**
-1 ... 1	6	vacuum, relative	**PSTV01RG34F-R**
0 ... 0,25	1	overpressure, relative	**PSTM250RG34F-R**
0 ... 0,4	2	overpressure, relative	**PSTM400RG34F-R**
0 ... 0,6	2	overpressure, relative	**PSTM600RG34F-R**
0 ... 1	6	overpressure, relative	**PST001RG34F-R**
0 ... 1,6	6	overpressure, relative	**PST002RG34F-R**
0 ... 4	12	overpressure, relative	**PST004RG34F-R**
0 ... 10	30	overpressure, relative	**PST010RG34F-R**
0 ... 25	75	overpressure, relative	**PST025RG34F-R**
0 ... 2	6	absolute	**PST002AG34F-R**
0 ... 10	30	absolute	**PST010AG34F-R**

Accessories / Connectors for plug 1 + 2 (OC and analog outputs) / Plug 3 (relay outputs ST4) / Syphons

5-prong M12 plug connector, straight version	**ST12-5-G**
5-prong M12 plug connector, angled version	**ST12-5-A**
4-prong M12 plug connector, straight version	**ST12-4-G**
4-prong M12 plug connector, angled version	**ST12-4-A**
4-prong M12 plug connector, straight version with 2 m cable	**ST12-4-GK**
4-prong M12 plug connector, angled version with 2 m cable	**ST12-4-AK**
Plug protection cap, IP65	**STA12**
Syphons for high temperature, steel, U-shape. For more accessories, see Accessories for Pressure Switches / Transmitters)	**UB430B**

Electronic Pressure switch for gas, low viscosity liquid (SmartPress)

Electronic Pressure switch, with LED display for the field of plant construction, fluidics, process technology, and pneumatics, as well as in the monitoring and control of pumps and compressors. Models available with the following output types:

- all models: switch output open collector; 14..36 Vdc, 250 mA
- PST -series: transmitter output; 0..10 Vdc or 4..20 mA
- PST..R -series: relay output with gold plated SPDT contact

Protection class	IP65
Housing material	Polybutylene terephtalate (PBT)
Media temp.	-20 ... 100 °C
Media temp. limit	Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap)
Ambient temperature	-20 ... 60 °C
Switch function/capacity	PST..R-models with relay contact output, 1 x SPDT, material silver gold plated. Capacity resistive: 24 Vdc, 60 mA / 230 Vac, 6,5 mA. With bigger loads, the gold layer will disappear, the capacity with the silver contacts is: 230 Vac 3(1) A.
Sensing element material	1.4571 + 1.4542
Additional description	**Applicable parameter settings:** • switching Set / Reset points • filters • analog output range • electrical drag indicator • **Applicable configurations:** • Max-Min, Window monitor • Analog output-signal • Pressure unit • Simulation mode

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Switch + Transmitter output, PST-models

Pressure range bar	Max. pressure bar	Output signal	Kind of pressure	Type
-1 ... 1	6	0..10Vdc / 4..20 mA + switch	vacuum, relative	**PSTV01RG12S**
0 ... 0,25	1	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM250RG12S**
0 ... 0,4	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM400RG12S**
0 ... 0,6	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM600RG12S**
0 ... 1,6	6	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST002RG12S**
0 ... 4	12	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST004RG12S**
0 ... 10	30	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST010RG12S**
0 ... 25	75	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST025RG12S**
0 ... 60	180	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST060RG12S**
0 ... 100	300	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST100RG12S**
0 ... 250	500	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST250RG12S**
0 ... 600	1000	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST600RG12S**
0 ... 2	6	0..10Vdc / 4..20 mA + switch	absolute	**PST002AG12S**
0 ... 10	30	0..10Vdc / 4..20 mA + switch	absolute	**PST010AG12S**

Switch + Transmitter + Relay output, PST..R -models

Pressure range bar	Max. pressure bar	Output signal	Kind of pressure	Type
-1 ... 1	6	0..10Vdc / 4..20 mA + switch + relay	vacuum, relative	**PSTV01RG12S-R**
0 ... 0,25	1	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM250RG12S-R**
0 ... 0,4	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM400RG12S-R**
0 ... 0,6	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM600RG12S-R**
0 ... 1,6	6	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST002RG12S-R**
0 ... 4	12	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST004RG12S-R**
0 ... 10	30	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST010RG12S-R**
0 ... 25	75	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST025RG12S-R**
0 ... 60	180	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST060RG12S-R**
0 ... 100	300	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST100RG12S-R**
0 ... 250	500	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST250RG12S-R**
0 ... 600	1000	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST600RG12S-R**
0 ... 2	6	0..10Vdc / 4..20 mA + switch + relay	absolute	**PST002AG12S-R**
0 ... 10	30	0..10Vdc / 4..20 mA + switch + relay	absolute	**PST010AG12S-R**

Accessories / Connectors for plug 1 + 2 (OC and analog outputs) / Plug 3 (relay outputs ST4) / Syphons

5-prong M12 plug connector, straight version	**ST12-5-G**
5-prong M12 plug connector, angled version	**ST12-5-A**
4-prong M12 plug connector, straight version	**ST12-4-G**
4-prong M12 plug connector, angled version	**ST12-4-A**
4-prong M12 plug connector, straight version with 2 m cable	**ST12-4-A-GK**
4-prong M12 plug connector, angled version with 2 m cable	**ST12-4-A-AK**
Plug protection cap, IP65	**STA12**
Syphons for high temperature, steel, U-shape. for more accessories, see Accessories for Pressure Switches / Transmitters	**UB430B**

Electronic Pressure switch for gas and liquid (Smart DCM)

Electronic Pressure Switches are microprocessor-controlled pressure measurement devices for relative pressures of -1 to +1 bar and 0 to 40 bar. They are suitable for an extremely wide range of applications, including the precision recording, monitoring, and control of system pressure.
Features:

- Open-collector
- Configurable as min./max/window monitor
- Adjustable drop-in/drop-out delay
- Hysteresis defined by set-point and reset-point
- Baclit LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software

Media temp.	-20 ... 80 °C
Sensing element material	1.4571

Pressure Switch without HMI

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	**PSSRV1011-S**
0 ... 1	3	IP67	-20 ... 80	**PSSRB0011-S**
0 ... 4	12	IP67	-20 ... 80	**PSSRB0041-S**
0 ... 10	30	IP67	-20 ... 80	**PSSRB0101-S**
0 ... 16	48	IP67	-20 ... 80	**PSSRB0161-S**
0 ... 25	50	IP67	-20 ... 80	**PSSRB0251-S**
0 ... 40	80	IP67	-20 ... 80	**PSSRB0401-S**

Pressure Switch HMI

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP65	-20 ... 70	**PSHRV1011**
0 ... 1	3	IP65	-20 ... 70	**PSHRB0011**
0 ... 4	12	IP65	-20 ... 70	**PSHRB0041**
0 ... 10	30	IP65	-20 ... 70	**PSHRB0101**
0 ... 16	48	IP65	-20 ... 70	**PSHRB0161**
0 ... 25	50	IP65	-20 ... 70	**PSHRB0251**
0 ... 40	80	IP65	-20 ... 70	**PSHRB0401**

Accessory

Field configuration tool	**CFT1**

Electronic Pressure transmitter for gas and liquid (Smart SN)

Electronic Pressure Transmitters are microprocessor-controlled pressure measurement devices for relative pressures of -1 to +1 bar and 0 to 40 bar. They are suitable for an extremely wide range of applications, including the precision recordin and monitoring of system pressure.
Features:

- Configurable as 0/2...10V or 0/4...20 mA (3-wire)
- Adjustable attenuation filter
- LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software

Media temp.	-20 ... 80 °C
Sensing element material	1.4571
Certificates	All 2-wire versions are SIL2 approved according IEC 61508

Pressure Transmitter without HMI (2-wire, 4-20 mA)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	**PTSRV1011A2**
0 ... 1	3	IP67	-20 ... 80	**PTSRB0011A2**
0 ... 4	12	IP67	-20 ... 80	**PTSRB0041A2**
0 ... 10	30	IP67	-20 ... 80	**PTSRB0101A2**
0 ... 16	48	IP67	-20 ... 80	**PTSRB0161A2**
0 ... 25	50	IP67	-20 ... 80	**PTSRB0251A2**
0 ... 40	80	IP67	-20 ... 80	**PTSRB0401A2**

Pressure Transmitter without HMI (3-wire, 0-10V)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	**PTSRV1011V3**
0 ... 1	3	IP67	-20 ... 80	**PTSRB0011V3**
0 ... 4	12	IP67	-20 ... 80	**PTSRB0041V3**
0 ... 10	30	IP67	-20 ... 80	**PTSRB0101V3**
0 ... 16	48	IP67	-20 ... 80	**PTSRB0161V3**
0 ... 25	50	IP67	-20 ... 80	**PTSRB0251V3**
0 ... 40	80	IP67	-20 ... 80	**PTSRB0401V3**

Pressure Transmitter without HMI (3-wire, 4...20mA)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	**PTSRV1011A3**
0 ... 1	3	IP67	-20 ... 80	**PTSRB0011A3**
0 ... 4	12	IP67	-20 ... 80	**PTSRB0041A3**
0 ... 10	30	IP67	-20 ... 80	**PTSRB0101A3**
0 ... 16	48	IP67	-20 ... 80	**PTSRB0161A3**
0 ... 25	50	IP67	-20 ... 80	**PTSRB0251A3**
0 ... 40	80	IP67	-20 ... 80	**PTSRB0401A3**

Pressure Transmitter with HMI (2-wire, 4-20 mA)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP65	-20 ... 70	**PTHRV1011A2**
0 ... 1	3	IP65	-20 ... 70	**PTHRB0011A2**
0 ... 4	12	IP65	-20 ... 70	**PTHRB0041A2**
0 ... 10	30	IP65	-20 ... 70	**PTHRB0101A2**
0 ... 16	48	IP65	-20 ... 70	**PTHRB0161A2**
0 ... 25	50	IP65	-20 ... 70	**PTHRB0251A2**
0 ... 40	80	IP65	-20 ... 70	**PTHRB0401A2**

Pressure Transmitter with HMI (3-wire, 0-10 V)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP65	-20 ... 70	**PTHRV1011V3**
0 ... 1	3	IP65	-20 ... 70	**PTHRB0011V3**
0 ... 4	12	IP65	-20 ... 70	**PTHRB0041V3**
0 ... 10	30	IP65	-20 ... 70	**PTHRB0101V3**
0 ... 16	48	IP65	-20 ... 70	**PTHRB0161V3**
0 ... 25	50	IP65	-20 ... 70	**PTHRB0251V3**
0 ... 40	80	IP65	-20 ... 70	**PTHRB0401V3**

Accessory

Field configuration tool	**CFT1**

Differential pressure transmitter for air (DPTM)

Double range differential pressure transmitter for air-conditioning/ventilation.
For filter-, fluid-, level monitoring, fan-, blower-, valve-, flap-, air flow control, and environmental protection.

Kind of pressure	differential pressure, relative
Pressure connection	6mm hose pipe
Electrical connection	M20x1,5
Protection class	IP54
Housing material	ABS and POM
Sensing method	piezoresistive
Sensing element material	ABS + POM
Media temp.	0 ... 50 °C
Medium	gaseous
Ambient temperature	0 ... 50 °C
Additional description	Duct Kit DPSK included in delivery of single package. • Adjustable by jumper to the next higher pressure range. • Factory settings: see column "pressure range". Full scale pressure range see data sheet

3-wire models, selectable 0 - 10 V/4 - 20 mA, analog output, supply voltage 18...30 Vac/dc, 50/60 Hz

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	**DPTM50**
-100 ... 100	20	**DPTM110**
-500 ... 500	20	**DPTM550**
-1000 ... 1000	20	**DPTM1100**
0 ... 100/250	20	**DPTM100**
0 ... 250/500	20	**DPTM250**
0 ... 500/1000	20	**DPTM500**
0 ... 1000/2500	40	**DPTM1000**
0 ... 5000/10000	60	**DPTM5000**

3-wire models, selectable 0 - 10 V / 4 - 20 mA analog output, supply voltage 18...30 Vac/dc, 50/60 Hz; WITH LED

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	**DPTM50D**
-100 ... 100	20	**DPTM110D**
-500 ... 500	20	**DPTM550D**
-1000 ... 1000	20	**DPTM1100D**
0 ... 100/250	20	**DPTM100D**
0 ... 250/500	20	**DPTM250D**
0 ... 500/1000	20	**DPTM500D**
0 ... 1000/2500	40	**DPTM1000D**
0 ... 5000/10000	60	**DPTM5000D**

2-wire models, analog output 4 - 20 mA, supply voltage 16 ... 32 Vdc

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	**DPTM52**
-100 ... 100	20	**DPTM112**
-500 ... 500	20	**DPTM552**
-1000 ... 1000	20	**DPTM1102**
0 ... 100/250	20	**DPTM102**
0 ... 250/500	20	**DPTM252**
0 ... 500/1000	20	**DPTM502**
0 ... 1000/2500	40	**DPTM1002**
0 ... 5000/10000	60	**DPTM5002**

Accessories

Duct Kit, including 2m silicone-hose and 2 joining pipes DPSJ with screws	**DPSK**
Mounting brackets L-shaped	**DPSL**

Air quality sensors

Air quality sensor

For detection of unpleasant odours, tobacco smoke, and vapours emitted by such materials as furniture, carpets, paint, glue, etc.

Protection class	III as per EN60730-1I IP30 as per EN60529
Output signal	0..10Vdc
Power supply	24 Vacdc; 1 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Adjustable output offset and LED display

	Type
	C7110A1010

Room CO2 sensor

For sensing or controlling of CO_2 concentration in buildings.

LED functions	operation as CO_2 indicator
Output signal	the following CO_2 output signals are applicable, analog or digital • 0..10V for 0..2000 ppm (factory setting) • 0..10 V or 2..10 V for 0..2000 ppm or 0..3000 ppm (configurable) • digital output with adjustable CO_2 setpoint and hysteresis for ventilation on/off
Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Wiring terminals	3

	Type
	C7110C1001
PC interface cable (PC software on request from Honeywell)	HDI10

Room temperature/ CO2 sensor

For sensing or controlling of CO_2 concentration; and temperature measurement in buildings.

LED functions	operation as occupancy indicator
Output signal	the following CO_2 output signals are applicable, analog or digital • 0..10V for 0..2000 ppm (factory setting) • 0..10 V or 2..10 V for 0..2000 ppm or 0..3000 ppm (configurable) • digital output with adjustable CO_2 setpoint and hysteresis for ventilation on/off
Temperature element	NTC20k
Temperature range	10 ... 35 °C
Setpoint knob	-5 ... 5 °C
Extra setp. knob	12 ... 30 °C
Occupancy switch	auto/bypass

Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Wiring terminals	7
Additional description	Temperature setpoint potentiometer delivered with 4 setpoint wheels; white and blue, relative and absolute scale.

	Type
	C7110D1009

PC interface cable (PC software on request from Honeywell)	**HDI10**

CO2 and temperature transmitters

For sensing or controlling of CO_2 concentration; and temperature measurement in buildings.

Output signal	the following output signals are applicable: • 0(2)..10 Vdc or 0(4)..20 mA for 0..2000/3000 ppm CO_2 • 0(2)..10 Vdc or 0(4)..20mA for 0..50 ^oC • relay output with adjustable CO_2 setpoint and hysteresis for ventilation on/off
Power supply	24 Vac; 2 VA
Additional description	• Models with LCD available for CO_2 concentration or temperature reading. • Contact input for occupancy detection. • RS232-port for connection with PC for parameter settings. • Service interval 5 years, according 89/336EEC.

Mounting place	Model	Protection class	Type
internal wall	without LCD	IP30	**AQS51**
internal wall	with 7-segment LCD	IP30	**AQS61**

Mounting place	Model	Protection class	Type
air duct	without LCD	IP65	**AQS51-KAM**
air duct	with 7-segment LCD	IP65	**AQS61-KAM**

CO_2 test set with gas generator for 0 ppm calibration	**AQS-F0005**
Interface cable to PC	**AQS3/4CABLE**
Service software for parameter settings	**AQSPC**

Air duct CO2 sensor

For sensing or controlling of CO_2 concentration in buildings.

Protection class	IP65 when probe mounted downwards, otherwise IP20
Output signal	0..10 V for 0..2000 ppm
Power supply	24 Vac; max. 3 VA
Mounting place	air duct
Wiring terminals	4

	Type
	AQS71-KAM

Solar sensor

Sensor to register solar radiation. Including two sensing elements.

Protection class	IP30
Mounting place	wall outside
Housing (HxWxD)	120 mm; 60 mm; 50 mm
Wiring terminals	3
Additional description	To be connected to a 10Vdc output from a controller as power supply. The solar output signal (0..5Vdc = 0..500 W/m^2) must be connected to an analogue input of the controller.

Type
SAF25

Air duct temperature sensor, active

Protection class	IP65
Output signal	0..10 Vac
Power supply	24 Vacdc; 1 VA
Temperature element	Pt100
Temperature range	0 ... 30 °C
Additional description	Aluminium coil for average measurement 3,8 m. Sensor supplied with coil clamp.

Type
LF24

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Electronical air flow switch for air (ASL)

Air flow monitor consisting of two parts: the sensor type SLF.. and the belonging evaluation unit type ASL...
For air flow monitoring in air-conditioning systems, ventilation and cooling systems and wherever flow processes in air or neutral gases have to be detected.

Protection class	sensor: IP32
Output signal	evaluation unit: relay SPST 8A, 250Vac, switch point adjustable from 0,1..20 m/s air speed
Additional description	Media temperature at sensor: -20..120 °C.

Sensor

Mounting place	Immersion depth mm	Power supply Vac; VA	Type
air duct	35	–; –	**SLF3**

Evaluation Unit

Mounting place	Immersion depth mm	Power supply Vac; VA	Type
universal	–	24; 3	**ASL453/24**
universal	–	230; 3	**ASL453**

Electronical flow switch for liquid (ASW)

Fluid flow monitor consisting of two parts: the sensor type SWF.. and the belonging evaluation unit type ASW...

Protection class	sensor: IP65; evaluation unit: IP32
Output signal	evaluation unit: relay SPST 8A, 250Vac, switch point adjustable, lowest 0,03 m/s fluid speed
Additional description	For sensor: • media temperature 0..80 °C • sensing element steel

Sensor

Power supply Vac; VA	Mounting place	Immersion depth mm	Type
–; –	in pipe	25	**SWF62**
–; –	in pipe	45	**SWF62L**

Evaluation unit

Power supply Vac; VA	Mounting place	Immersion depth mm	Type
230; 3	universal	–	**ASW454**
24; 3	universal	–	**ASW454/24**

Paddle flow switches for air (S6040)

The flow switches are designed for monitoring flow rates in pipes and ducts employed in HVAC applications.
For monitoring flow of non-aggressive gases in air ducts of air conditioning systems and air treatment systems.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250Vac, (8)15 A
Setpoint device	screw
Max. media temperature	85 °C
Setpoint range	2,5..9,2m/s
Max. pressure	0,25 bar

	Type
	S6040A1003
Paddle set	**PA1**

8

Paddle flow switches for liquid (S6065)

The flow switches are designed for monitoring flow rates in pipes and ducts employed in HVAC applications.
For monitoring flow in water, oil, cooling circuits, and lubrication systems.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250Vac, (8)15 A
Setpoint device	screw
Approvals	TUEV-approval
Max. media temperature	120 °C
Setpoint range	0,6..165 m^3/h pipe size dependent

Liquid

Media	Max. pressure bar	Type
liquid non-aggressive	11	**S6065A1003**
liquid aggressive	30	**S6065A2001**

Electronic flow switches for liquid, compact version (KSW)

The high reliable compact electronic flow switch is designed for detecting water flow in pipes. As soon as medium flow speed exceeds or falls under a customer adjusted value, the device will switch a electric circuit.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250 Vac, 10(2) A
Immersion depth	20 mm
Media	liquid and air
Setpoint range	0,05..3 m/s
Max. media temperature	80 °C
Max. pressure	30 bar
Additional description	LED's available for indication of power supply and switch status.

Process connection G1/2"

Power supply Vac; VA	Type
24; 4	**KSW24**
230; 4	**KSW230**

Dew-point switch

This early-warning dew-point switch is designed for use in monitoring cooling water pipes or chilled surfaces in order to determine if temperatures are approaching the dewpoint. It is suitable for mounting on flat and round surfaces. The switch measures the relative humidity prevailing directly at the chilled surface and can thus be used to:

- regulating cooling performance
- switching cooling systems ON and OFF
- signalling if the temperature is approaching the dew-point

Status indication with LED, showing condensation danger
Switching point at 90 %rh, hysteresis 5 %rh

Ambient temperature	0 ... 50 °C
Protection class	IP40
Mounting	wall, duct or pipe (max. 50 mm)
Power supply	24 Vac; 0,3 VA
Switch function/capacity	potential free changeover contact; max. 24 Vac/dc, 1 A
Wiring connection	5-pole push-in terminals, max. 1,5mm^2

	Type
	HSS-DPS

Thermostats Page

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Honeywell

Room temperature controller 24Vac, modulating, on/off, T8078C

Digital controller for individual zone control of terminal units in fan coil and air conditioning systems, with great applications flexibility. The controller provides position control of valves or dampers (for airside control), and is capable of mounting on a switching sub-base for manual control of the fan speed.
The controller can be configured (with dipswitches) for the following applications:

- Heat / Cool changeover
- Cooling only
- Cooling + optional 2 stages On/Off Heating
- Heating only
- Heating + optional 2 stages On/Off Cooling
- Heating + Cooling Sequence Control

Control output signal	2 triacs for 1 valve open/close; 2 triacs for 2nd valve open/close or 2 on/off stages; max. load 8 VA /triac (24 V)
Control functions	dipswitch settings for: • PI Modulating (3-position) • PI On/Off • thermal actuator control using TPM (=Thermal Predictive Modulating) • proportional band • zero energy band
Temperature element	NTC100k
Temp. setpoint range	15 ... 30 °C
Optional inputs	remote sensor, remote setpoint adjustment, heat/cool changeover, energy savings contact
Housing (HxWxD)	83 mm; 83 mm; 40 mm
Protection class	IP30
Power supply	24 Vac; 1,2 VA
Additional description	• easy system check with LED and PC-output port • easy commissioning with automatic valve pulsing • periodic valve excercise and synchronisation • remote sensor auto-detect

	Type
	T8078C1009

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	F42006646 001
Wall-plate to allow mounting onto different wall boxes (5 pieces)	F42007789 001
Remote setpoint module (-5..+5 K)	Q979B1029
Remote sensor and setpoint module (-5..+5 K)	Q979C1036
Wall mounted space temperature sensor	Q979A1020
Remote sensor for duct or terminal unit mounting (1.5m cable)	T8109C1002
External pipe thermostat for automatic heat/cool changeover	S4390A1004
Fan speed switching subbase (230 V)	Q6360A1025

XE-70 thermostat, 230Vac, 2-pipe fan-coil, fan only control, T6370/T6371

Wall mounted line voltage fan-coil thermostat.
For control of fan only in fan coil and ventilation applications.

Approvals	CE
Protection class	IP30
Switch function/capacity	SPDT 230Vac, 4 A resistive, 2 A inductive ratings
Terminal max. wire size	1,5 mm^2
Temp. setpoint range	10 ... 30 ^oC
Differential fixed	1 ^oC
Temperature element	vapour filled
Temp. element place	built in
Heat anticipator	yes
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	130 mm; 85 mm; 40 mm
Additional description	T6371C uses a pipe thermostat (L641B1004) to provide automatic heat/cool changeover, depending on the temperature of the water supplied to the fan-coil unit.

Heating /Cooling application	Manual operation functions	Fan switch	Heat/Cool manual mode	Automatic Heat/Cool change over	Type
H or C	–	–	–	–	**T6370A1010**
H or C	on/off switch	1/2/3	–	–	**T6371A1019**
H + C	on/off switch	1/2/3	H/C	–	**T6371B1017**
H + C	on/off switch	1/2/3	–	ext. thermostat	**T6371C1015**

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	**F42006646 001**
Opaque tamperproof cover to prevent thermostat from damage	**F42008489 001**
Transparent tamperproof cover to prevent thermostat from damage	**F42008489 002**
Pipe thermostat to allow automatic heat/cool changeover with T6371C	**L641B1004**

XE-70 thermostat, 230Vac, 2-pipe fan-coil, fan & valve control, T6372/T6373

Wall mounted line voltage fan-coil thermostat.
For control of the valve, or the valve and the fan in 2-pipe fan-coil applications.

Approvals	CE
Protection class	IP30
Switch function/capacity	SPDT 230Vac, 4 A resistive, 2 A inductive ratings
Terminal max. wire size	1,5 mm^2
Temp. setpoint range	10 ... 30 °C
Differential fixed	1 °C
Temperature element	vapour filled
Temp. element place	built in
Heat anticipator	yes
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	130 mm; 85 mm; 40 mm
Additional description	T6372C and T6373C use a pipe thermostat (L641B1004) to provide automatic heat/cool changeover, depending on the temperature of the water supplied to the fan-coil unit. T6373A1157 requires a central switch to change from heating to cooling, for central control of multiple units.

Heating /Cooling application	Manual operation functions	Fan switch	Fan cycled or continuous	Heat/Cool manual mode	Automatic Heat/ Cool change over	Type
H or C	on/off switch	–	both	–	–	**T6372A1018**
H + C	–	–	both	H/C	–	**T6372B1024**
H + C	on/off switch	–	both	H/C	–	**T6372B1032**
H + C	on/off switch	–	both	–	ext. thermostat	**T6372C1014**
H or C	on/off switch	1/2/3	continuous	–	–	**T6373A1017**
H or C	on/off switch	1/2/3	continuous	–	–	**T6373A1157**
H + C	on/off switch	1/2/3	continuous	H/C	–	**T6373B1015**
H + C	on/off switch	1/2/3	both	H/C	–	**T6373B1064**
H + C	on/off switch	1/2/3	continuous	–	ext. thermostat	**T6373C1013**

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	**F42006646 001**
Opaque tamperproof cover to prevent thermostat from damage	**F42008489 001**
Transparent tamperproof cover to prevent thermostat from damage	**F42008489 002**
Pipe thermostat to allow automatic heat/cool changeover with T6371C	**L641B1004**

XE-70 thermostat, 230Vac, 4-pipe fan-coil, fan & valve control, T6374/T6375

Wall mounted line voltage fan-coil thermostat.
For control of the valves, or the valves and the fan in 4-pipe fan-coil applications, with the possibility of also being used for the control of split units or small air-conditioners.

Approvals	CE
Protection class	IP30
Switch function/capacity	SPDT 230Vac, 4 A resistive, 2 A inductive ratings
Terminal max. wire size	1,5 mm^2
Temp. setpoint range	10 ... 30 ^oC
Differential fixed	1 ^oC
Temperature element	vapour filled
Temp. element place	built in
Heat anticipator	yes
Heating /Cooling application	H + C
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	130 mm; 85 mm; 40 mm
Additional description	T6374C and T6375C have sequence control with a deadband of 1.5 ^oC between heating and cooling operating points.

Manual operation functions	Fan switch	Fan cycled or continuous	Heat/Cool manual mode	Automatic Heat/Cool change over	Type
–	–	–	–	seq. control	**T6374C1004**
on/off switch	–	continuous	–	seq. control	**T6374C1012**
on/off switch	1/2/3	continuous	H/fan/C	–	**T6375B1013**
on/off switch	1/2/3	continuous	H/C	–	**T6375B1021**
on/off switch	1/2/3	continuous	–	seq. control	**T6375C1003**
on/off switch	1/2/3	both	H/C	–	**T6375D1001**

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	**F42006646 001**
Opaque tamperproof cover to prevent thermostat from damage	**F42008489 001**
Transparent tamperproof cover to prevent thermostat from damage	**F42008489 002**

XE-70 thermostat, 230Vac, heatpump & air-conditioner control, T6376/T6377

Wall mounted line voltage HVAC thermostat.
For control of the fan, compressor, reversing valve, and auxiliary heater in split units, heatpumps, and small air conditioners.

Approvals	CE
Protection class	IP30
Switch function/capacity	SPDT 230Vac, 4 A resistive, 2 A inductive ratings
Terminal max. wire size	1,5 mm^2
Temp. setpoint range	10 ... 30 °C
Differential fixed	1 °C
Temperature element	vapour filled
Temp. element place	built in
Heating /Cooling application	H + C
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	130 mm; 85 mm; 40 mm
Additional description	T6376B, T6377B1003, T6377B1011 are suitable for heatpumps with reversing valve. T6376B, T6377B1045, T6377B1151 are suitable for air-conditioners.

Heat anticipator	Temperature controlled output	Additional output	Manual operation functions	Fan switch	Fan cycled or continuous	Heat/Cool manual mode	Type
•	fan + compressor + heater	rev. valve	–	auto/cont.	both	H/off/C	**T6376B1004**
•	compressor	rev. valve	on/off switch	1/2/3	continuous	H/fan/C	**T6377B1003**
–	fan + compressor	rev. valve	–	1/2/3+auto/cont.	both	H/off/C	**T6377B1011**
•	fan + compressor + heater	–	–	1/2/3+auto/cont.	both	H/off/C	**T6377B1045**
–	fan + valve + heater	–	on/off switch	1/2/3	both	H/em.heat/C	**T6377B1151**

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	**F42006646 001**
Opaque tamperproof cover to prevent thermostat from damage	**F42008489 001**
Transparent tamperproof cover to prevent thermostat from damage	**F42008489 002**

Fan coil digital control

Fan coil controller with LCD display for 2-pipe systems, T6812

Fan-coil controller with large LCD display, and built in room sensor
For on/off P+I control of valves and fan. Selectable applications:

- 2 pipe system, heating only
- 2 pipe system, cooling only
- 2 pipe system, heating or cooling, manual change-over

Temp. setpoint range	10 ... 32 ^{o}C
Control output signal	switches (230V 2A inrush 3,5A) on/off for heating- and cooling valve, switches (230V 4A inrush 10A)for fan (3-speed)
Manual operation functions	on/off; room setpoint; fan speed low/med/high; heat/cool change-over
Display functions	setpoint temperature, room temperature, mode of operation: heat, cool or fan only
Housing (HxWxD)	126 mm; 86 mm; 29 mm
Protection class	IP30
Mounting	directly on wall or wall-box
Terminal max. wire size	2,5 mm^2
Product literature language	controller supplied with installation instructions in English, French, Dutch, Spanish
Power supply	230V 50Hz
Additional description	• Installer Set Up table for application selection and parameter settings • parameter settings and setpoint retained in event of power loss • installer test mode for on-site wiring checks • LCD display with backlight • keypad lockout

Two-pipe fan coil controller with LCD display T6812

	Type
	T6812A1000

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Fan coil digital control

Fan coil controller TIREE, T6580

Fan-coil controller with built in room sensor
For on/off P+I control of valves, fan and auxiliary electric heater. Models available for 2 or 2/4 pipe systems.

- heating/cooling sequence with auxiliary electric heater (water sensor required)
- electric heater / cooling sequence
- ventilation only
- auto changeover (water sensor or external contact required)
- freeze protection (if window contact activated)

Temp. setpoint range	10 ... 30 °C
Input signal	optional return air room sensor, water sensor, setback contact for energy saving, window contact and changeover contact
Control output signal	triacs (230V 0,8A) on/off or PWM for heating- and cooling valve, switches (230V 1,25A inrush 3A) for fan (3-speed) and heater
Power supply	230 Vac; 5 VA
Manual operation functions	room setpoint; fan speed auto/off/low/med/high
Housing (HxWxD)	88 mm; 118 mm; 31 mm
Protection class	IP30
Mounting	directly on wall, wall box or fan-coil chassis
Terminal max. wire size	2,5 mm^2
Product literature language	controller supplied with installation instructions in English, French, Italian, Spanish

Product description	Type
Fan Coil controller for 2/4 pipe systems. With push buttons for changeover, comfort/economy and indication LED; adjustable dead band for heat/cool sequence operation; Installer Set Up routine for parameter settings	**T6580A1008**
Fan Coil controller Lite. For 2-pipe systems. Only on/off outputs.	**T6580A1016**

Sensors

Return air room temperature sensor NTC10k	**RFCA-SR10**

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Fan coil digital control

Fan coil controller with LCD display, T6590

Fan-coil controller with large LCD display, and built in room sensor
For on/off P+I control of valves, fan and auxiliary electric heater. Eight applications selectable:

- 2 pipe system, heating only
- 2 pipe system, cooling only
- 2 pipe system, heating or cooling
- 2 pipe system, heating or cooling, auto changeover (water sensor required)
- 2 pipe system, heating or cooling with auxiliary electric heater (water sensor required)
- 4 pipe system, heating or cooling
- 4 pipe system, heating or cooling, auto changeover
- 4 pipe system, mixed manual and auto

Temp. setpoint range	10 ... 32 °C
Input signal	optional remote room sensor, water sensor, setback contact for energy saving
Control output signal	switches (230V 1A inrush 3A) on/off for heating- and cooling valve, switches (230V 3A inrush 6A)for fan (3-speed) and heater
Power supply	230 Vac; 5 VA
Manual operation functions	room setpoint; fan speed on/off, low/med/high or auto; heat/cool change-over manual or auto
Display functions	setpoint temperature, room temperature, mode of operation: heat, cool or standby
Housing (HxWxD)	97 mm; 148 mm; 29 mm
Protection class	IP30
Mounting	directly on wall or wall-box
Terminal max. wire size	2,5 mm^2
Product literature language	controller supplied with installation instructions in English, French, Italian, Spanish
Additional description	• Installer Set Up routine for application selection and parameter settings • parameter settings retained in event of power loss • adjustable dead band for heat/cool sequence operation • activity sensing: back to energy saving mode if no button is pressed for a selected period of time • freeze protection • LCD display with bright backlight • keypad lockout (total or partial)

Product description	Type
Fan Coil controller, for 2-pipe systems only	**T6590A1000**
Fan Coil controller, for 2-pipe or 4-pipe systems	**T6590B1000**

Sensors

Room temperature sensor NTC20k	**RF20**
Strap-on water temperature sensor NTC20k	**T7414C1012**
Pipe thermostat to allow automatic heat/cool changeover	**L641B1004**

Air/liquid thermostat, 120..230Vac with single SPDT output T675

Line voltage thermostat, with remote bulb sensor connected to controller by means of a 1,5 m long liquid filled capillary tube.
For control of air temperature in ducts or water temperature in tanks or storage vessels.

Approvals	CE
Switch function/capacity	5A at 230Vac, or 8A at 120Vac
Setpoint device	knob
Temperature controlled output	1 x SPDT
Temperature element	capillary with bulb
Mounting place	universal
Capillary tube length	1,5 m
Housing (HxWxD)	143 mm; 51 mm; 67 mm
Sensing element (dia x L)	13 mm; 106 mm

1-switch model

Temp. setpoint range °C	Differential fixed °C	Differential setting range °C	Media temp. °C	Type
-15 ... 35	0,6	–	... 52	**T675A1284**
13 ... 79	0,6	–	... 93	**T675A1458**
-15 ... 35	–	1,7 ... 5,6	... 52	**T675A1607**
30 ... 80	–	1,7 ... 5,6	... 93	**T675A1615**
75 ... 125	–	1,7 ... 5,6	... 138	**T675A1623**

Accessories

Copper well PN10, R1/2	**42000361 001**

Air/liquid thermostat, 120..230Vac with dual SPDT outputs T678

Line voltage thermostat, with remote bulb sensor connected to controller by means of a 1,5 m long liquid filled capillary tube.
For control of air temperature in ducts or water temperature in tanks or storage vessels.

Approvals	CE
Switch function/capacity	5A at 230 Vac, or 8 A at 120 Vac
Setpoint device	knob
Temperature controlled output	2 x SPDT
Differential setting between switches	1,7 ... 5,6 °C
Temperature element	capillary with bulb
Mounting place	universal
Capillary tube length	1,5 m
Housing (HxWxD)	143 mm; 51 mm; 67 mm

2-switch model

Temp. setpoint range °C	Differential fixed °C	Differential fixed 2nd switch °C	Media temp. °C	Sensing element (dia x L) mm; mm	Fast response sensor	Type
-18 ... 38	1,7	1,7	... 52	12,5; 100	–	**T678A1015**
13 ... 79	2	2	... 93	–; –	•	**T678A1494**
-15 ... 35	1,7	1,7	... 52	12,5; 100	–	**T678A1551**
30 ... 80	1,7	1,7	... 93	12,5; 100	–	**T678A1577**

Accessories

Copper well PN10, R1/2	**42000361 001**

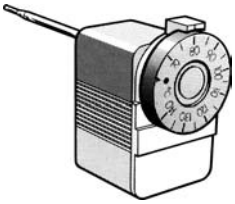
Hot air safety thermostat with immersion pipe

Line voltage safety thermostat for air handling units with electrical heaters, or direct fired heaters.

Switch function/capacity	SPST 230 Vac Micro switch, 4 A
Mechanical lock/reset	with hand reset
Temp. setpoint range	10 ... 75 °C
Media temp.	... 170 °C
Ambient temperature	... 80 °C
Temperature element	bimetal
Mounting place	air duct
Immersion depth	290 mm

	Type
	L4064K1006/U

Universal thermostat with well



Line voltage thermostat for liquids.

Approvals	DIN TR51388
Switch function/capacity	SPDT Micro switch 230 Vac, contact 1: 10 A resistive, 2,5 A inductive; contact 2: 4 A resistive, 1 A inductive
Wiring connection	terminals on connector
Differential setting range	4 ... 10 °C
Mounting place	in pipe
Immersion depth	105 mm
Immersion well material	copper
Immersion well thread	R1/2"

	Temp. setpoint range °C	Type
	25 ... 95	**L6188A2002**
	40 ... 110	**L6188A2010**
	70 ... 140	**L6188A2036**

Capillary tube thermostat with sensing bulb (TAM)

The sensor cartridge at the end of the capillary tube is the actual active (temperature sensitive) part of the sensor. Changes in temperature on the capillary tube have no effect on the switching point. Pressuretight installation of the sensor in pressure vessels of all kinds is possible with the aid of immersion tubes.

Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	die-cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 70 °C
Switch function/capacity	SPDT 250 Vac, 8(5) A
Capillary tube length	1,5 m
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, IP65, capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA
Thermostat application	capillary tube thermostat

Temp. setpoint range °C	Differential fixed K	Max. perm. temp. at sensor °C	Type
-20 ... 20	1,5	110	**TAM022**
10 ... 50	1,5	110	**TAM150**
40 ... 90	2	125	**TAM490**
80 ... 130	2	150	**TAM813**

Immersion wells

Red brass well G1/2" PN25, immersion/total length 135/151 mm	**R1/MS**
Stainless steel well G1/2" PN63, immersion/total length 135/151 mm	**R1/Nst**
Red brass well G1/2" PN25, immersion/total length 220/236 mm	**R2/MS**
Stainless steel well G1/2" PN63, immersion/total length 220/236 mm	**R2/Nst**
Red brass well G1/2" PN25, immersion/total length 500/516 mm	**R3/MS**
Capillary tube bushing with 3 mm capillary tube screw in thread G1/2, not pressure-tight	**R4**
Capillary tube bushing, rubber plug for 3 mm capillary tube, bore diameter 10 mm, not pressure-tight	**R5**

Immersion tubes NPT

Red brass well G1/2" NPT PN25, immersion/total length 135/151 mm	**RN1/MS**
Stainless steel well G1/2" NPT PN63, immersion/total length 135/151 mm	**RN1/NST**
Red brass well G1/2" NPT PN25, immersion/total length 220/236 mm	**RN2/MS**
Stainless steel well G1/2" NPT PN63, immersion/total length 220/236 mm	**RN2/NST**

More Accessories

Wall bracket for fixing the sensor cartridge	**H2**
Sealing	**P2**
Heat conducting compound	**WLP1**

Frost protection

Frost protection thermostat with capillary (T69)

Line voltage frost protection thermostat for reheaters in air conditioning systems, and heat exchangers in cooling systems.

Housing material	ABS and corrosion protected steel (IP65 Makrolon)
Ambient temperature	-15 ... 55 °C
Switch function/capacity	SPDT 24..250 Vac, 15(8)A
Thermostat application	frost protection thermostat
Temp. setpoint range	-10 ... 12 °C
Differential fixed	1 K
Additional description	For thermostats with capillary lengths 3m and 6m the DBZ-05 package is included.

Temperature element	Capillary tube length m	Mechanical lock/reset	Protection class	**Type**
capillary with bulb	1,8	manual	IP54	**T6950A1000**
capillary	3	manual	IP54	**T6950A1018**
capillary	6	manual	IP54	**T6950A1026**
capillary with bulb	1,8	auto	IP54	**T6951A1009**
capillary	3	auto	IP54	**T6951A1017**
capillary	6	auto	IP54	**T6951A1025**
capillary with bulb	1,8	manual	IP65	**T6960A1008**
capillary	3	manual	IP65	**T6960A1016**
capillary	6	manual	IP65	**T6960A1024**
capillary with bulb	1,8	auto	IP65	**T6961A1007**
capillary	3	auto	IP65	**T6961A1015**
capillary	6	auto	IP65	**T6961A1023**

Accessories

Fastening clamps 5 pieces	**DBZ-05**

Safety thermostats

Safety limiting thermostat, with hand reset (STB1)

Sealing pipe thermostat with well.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPST 230 Vac, 10 A
Mechanical lock/reset	mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval STB 89 501
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, reset outside
Temp. setpoint range	60 ... 130 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	150 °C

	Type
	STB1

Accessories

Steel well R1/2" x 150 mm	**T4NST**

Safety strap-on thermostat (temperature limiter) for floor heating applications (STB)

The STB Servies of universal strap-on thermostats are designed for floor heating applications. They are suitable for use as strap-on, wall-mounted, or (with optional immersion well) immersion thermostat. Devices of the STB Series likewise measure temperature. If the sensor temperature exceeds the set value, a snap-action switch opens, interrupting the electrical circuit, and remains open until reset manually. (Also, if the sensor temperatuire drops to below approx. - 20 degrees C, the snap-action switch opens, but closes again automatically after the temperature rises again.) To manually reset the device, the sensor temperature must drop by more than approx. 10 K.

Electrical connection	M20x1,5
Protection class	IP54
Housing material	PA, ABS, PMMA
Ambient temperature	0 ... 80 °C
Switch function/capacity	max: 230Vac, 12 (2,5) A / min: 24 Vac/dc, 100 mA
Mechanical lock/reset	manual reset
Setpoint device	knob
Certificates	CE, UL, PED, DIN EN 14597
Thermostat application	strap-on thermostat
Differential fixed	10 K

Temp. setpoint range °C	Type
20 ... 80	**STB2080F**
70 ... 130	**STB70130F**

Accessories

Immersion Well, G1/2	**STG12-100F**

Safety limiting thermostat, hand reset, large range (STW1)

Sealing pipe thermostat with well.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPDT 230 Vac, 10 A
Mechanical lock/reset	no mechanical lock
Certificates	TUEV-approval STW (STB)89 401 S
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, reset inside
Temp. setpoint range	20 ... 150 °C
Mounting place	in pipe
Immersion depth	150 mm
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C
Additional description	Fixed switching differential approx. 4% of setpoint value.

	Type
	STW1

Accessories

Steel well R1/2" x 150 mm	T4NST

Safety strap-on thermostat for floor heating applications (STW)

The STW Servies of universal strap-on thermostats are designed for floor heating applications. They are suitable for use as strap-on, wall-mounted, or (with optional immersion well) immersion thermostat. Devices of the STW Series measure temperature. If the sensor temperature exceeds the set value, a snap-action switch opens, interrupting the electrical circuit. As soon as the sensor temperature drops by more than 10 K, the snap-action switch again closes automatically. (Also, if the sensor temperature drops to below approx. 20 degrees C, the snap-action switch opens, but closes again automatically after the temperature rises again.

Electrical connection	M20x1,5
Protection class	IP54
Housing material	PA, ABS, PMMA
Ambient temperature	0 ... 80 °C
Switch function/capacity	max: 230Vac, 12 (2,5) A min: 24 Vad/dc, 100 mA
Mechanical lock/reset	automatic reset
Setpoint device	knob
Certificates	CE, UL, PED, DIN EN 14597
Thermostat application	strap-on thermostat
Differential fixed	10 K

Temp. setpoint range °C	Type
20 ... 80	STW2080F
70 ... 130	STW70130F

Accessories

Immerson well, G1/2, 100 mm	STG12-100F

Safety limiting thermostat with setpoint knob, shut-off (STBTR)

Sealing pipe thermostat with well.
For safety temperature control, and in addition high temperature shut-off functionality.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval TR / STB 90 001
Thermostat application	immersion tube therm. + controller
Thermostat functions	temp. setting inside + outside, reset outside
Temp. setpoint range	30 ... 110 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	130 °C
Additional description	Safety control switching differential approx. 4% of setpoint value. Shut-off temperature: 30..110 °C adjustable.

	Type
	STB+TR

Accessories

Steel well R1/2" x 150 mm	**T5NST**

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Safety limiting thermostat with setpoint knob, shut-off, automatic reset (STWTR)

Sealing pipe thermostat with well.
For safety temperature control, and in addition high temperature shut-off functionality.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, automatic reset
Immersion depth	150 mm
Certificates	TUEV-approval TR / STW (STB)89 901 S
Thermostat application	immersion tube therm. + controller
Thermostat functions	temp. setting inside + outside, reset inside
Temp. setpoint range	20 ... 150 °C

Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C
Additional description	Safety control switching differential approx. 4% of setpoint value. Shut-off temperature: 20..150 °C adjustable.

	Type
	STW+TR

Accessories

Steel well R1/2" x 150 mm	T5NST

Safety limiting thermostat, with shut-off (STBTW)

Sealing pipe thermostat with well.
For safety temperature control, and in addition high temperature shut-off functionality.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval TW / STB 90 401
Thermostat application	immersion tube therm. + monitor
Thermostat functions	temp. setting inside, reset outside
Temp. setpoint range	30 ... 110 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	130 °C
Additional description	Safety control switching differential approx. 3..4% of setpoint value. Shut-off temperature: 30..110 °C adjustable.

	Type
	STB+TW

Accessories

Steel well R1/2" x 150 mm	T5NST

Safety thermostats

Safety limiting thermostat, automatic reset (TWP1)

Sealing pipe thermostat with well.
The temperature monitor can be used for heating systems according to DIN 4751 for steam and hot water systems and for district heating systems.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPDT 230 Vac, 10 A
Mechanical lock/reset	no mechanical lock
Immersion depth	100 mm
Certificates	TUEV-approval TW 89 201
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, automatic reset
Temp. setpoint range	20 ... 150 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C

	Type
	TWP1

Accessories

Steel well R1/2" x 150 mm	**T4NST**

Flue gas thermostat

Flue gas thermostat for safety control of solid fuel boilers (in combination with oil boilers).

Switch function/capacity	SPDT 10A/250Vac
Setpoint device	inside
Mounting place	flue gas vent
Temp. setpoint range	20 ... 400 °C
Differential setting range	10 ... 18 °C

	Type
	RGT240

Room thermostats

Room thermostat, industrial, 1/2 stages (T6120)

Line voltage thermostat for control of heating-, cooling-, and ventilation systems in industrial areas.

Housing material	glass fibre reinforced ABS
Setpoint device	knob
Thermostat application	room thermostat
Differential fixed	1 K
Additional description	T6120B is dual stage, with 2..10 K difference between the stages.

Temp. setpoint range °C	Switch function/capacity	Protection class	**Type**
0 ... 60	SPDT 250Vac 10A (1,5A)	IP54	**T6120A1005**
-30 ... 30	SPDT 250Vac 15A (8A)	IP65	**T6120B1003**

Room thermostat, corrosion resistive

Line voltage thermostat for control of heating-, cooling-, and ventilation systems in farm buildings, storage areas, swimming pools etc.

Switch function/capacity	SPST enclosed Micro switch 230Vac , 5 A resistive, 3,7 A inductive
Differential fixed	1,7 °C
Temperature element	capillary
Heating /Cooling application	H or C

Temp. setpoint range °C	**Type**
-10 ... 30	**T631C1178**
20 ... 60	**T631C1160**

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Room thermostat for industrial permises (TRM)

Room thermostats are suitable for industrial plant, for greenhouses, cowsheds and warehouses, also for monitoring the maximum temperature in switchgear cabinets and relay stations.
Line voltage thermostat for control of heating-, cooling-, and ventilation systems in industrial areas.

Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	die cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 70 °C
Switch function/capacity	SPDT 250 Vac, 8(5) A
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, IP65, capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA
Thermostat application	room thermostat, industrial
Additional description	Including mounting bracket typenumber H1.

Fixed switching difference

Temp. setpoint range °C	Differential fixed K	Differential setting range K	Max. perm. temp. at sensor °C	Type
-20 ... 20	1	–	70	**TRM022**
0 ... 40	1	–	70	**TRM40**
10 ... 50	1	–	70	**TRM150**

Adjustable switching difference

Temp. setpoint range °C	Differential fixed K	Differential setting range K	Max. perm. temp. at sensor °C	Type
0 ... 40	–	3 ... 10	70	**TRMV40**
10 ... 50	–	3 ... 10	70	**TRMV150**

Accessories

Cover for outdoor application	**S1**
Sealing	**P2**
Heat conducting compound	**WLP1**

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Honeywell

Room and air duct humidistats (H)

Line voltage humidistats for (de)humidification 2-point control in air conditioning systems. Also applicable for swimming pools (dehumidification).

R.H. setpoint range	35 ... 100 %rh
(De) Humidification application	D + H
Additional description	Maximum air flow speed for ducts: 8 m/s.

Room humidistat H6120

R.H. hysteresis switching point %rh	Ambient temperature °C	Mounting place	Immersion depth mm	Switch function/capacity	Protection class	**Type**
4	0 ... 60	internal wall	–	SPDT 230Vac /5A (0,2A)	IP30	**H6120A1000**

Duct humidistat H6045

R.H. hysteresis switching point %rh	Ambient temperature °C	Mounting place	Immersion depth mm	Switch function/capacity	Protection class	**Type**
5	-10 ... 65	air duct	222	SPDT 250Vac/15A (8A)	IP65	**H6045A1002**

Humidistats

Room humidistat, low voltage

Low voltage humidistat for humidity control of rooms.

Switch function/capacity	SPDT 48 Vac, 6 A
R.H. hysteresis switching point	5 %rh
Ambient temperature	10 ... 50 °C
R.H. sensing element	nylon
(De) Humidification application	D + H
Mounting place	internal wall
Additional description	With internal setpoint adjustment limiter. Including mounting base/ring.

R.H. setpoint range %rh	Type
30 ... 80	**H615A2015**
50 ... 90	**H615A2077**

Air duct humidistat

Line voltage immersion humidistat for air ducts or industrial areas.

Switch function/capacity	SPDT 230 Vac, 15 A
R.H. setpoint range	35 ... 100 %rh
R.H. hysteresis switching point	4 %rh
Ambient temperature	-30 ... 60 °C
R.H. sensing element	plastic tissue
(De) Humidification application	D + H
Mounting place	air duct

Type
HGK3

Switching module, Q6371

Wall mounted switching module.
For manual control of the valve, or the valve and the fan in fan-coil applications.

Approvals	CE
Protection class	IP30
Switch function/capacity	manual switch outputs, 230Vac, 6 A resistive, 4 A inductive ratings
Terminal max. wire size	1,5 mm^2
Manual operation functions	on/off switch
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	83 mm; 84 mm; 27 mm

Heating /Cooling application	Fan switch	Heat/Cool manual mode	Type
H or C	1/2/3	–	**Q6371A1006**
H + C	yes	H/C	**Q6371C1002**
H + C	1/2/3	H/C	**Q6371C1010**

Transformers

Transformer

Protection class	IP00
Input voltage	220/230 V selectable, 50Hz
Output voltage	24Vac
Additional description	With mains fuse. VDE0551 mark.

Model	Type
48 VA	**CRT2**
144 VA	**CRT6**
288 VA	**CRT12**

Transformer, 2 secondary windings

Protection class	IP00
Input voltage	230 V, 50Hz
Output voltage	2 x 24Vac, separated
Additional description	With mains fuse. VDE0551 mark.

Model	Type
144/144 VA	**CRT6-6**
150/250 VA	**CRT6-12**

Transformers

Transformer wall mounting

Transformer to be mounted outside of cabinets, built in closed housing.

Protection class	IP54
Input voltage	220 V, 50/60Hz
Output voltage	24Vac
Model	45 VA
Additional description	• With mains cable 1,5 m and mains plug. • With low voltage cable 3 m, without plug.

	Type
	ETR2

Enclosed Transformer

Input voltage	240V 50Hz
Output voltage	24V 50Hz
Max. ambient temperature	40 ^{o}C
Additional description	• primary fuse 5 x 20 mm glass cartridge slow blow • conduit entries two 21 mm dia. • open circuit voltage 25V 50Hz at 240V input

Model	Type
40 VA, 315 mA fuse rating	**TRE40**
60 VA, 315 mA fuse rating	**TRE60**
100 VA, 500 mA fuse rating	**TRE100**
250 VA, 1250 mA fuse rating	**TRE250**

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Honeywell

RF Chronotherm with extended feature set and slim ultra-modern design CM927, CM921

The CM920 (CM927 or CM921) is a modern wireless programmable room thermostat based on Honeywell's proven CM60RFNG programming philosophy. To further improve the ease of use and assist installation this product includes an extra large LCD display with backlighting, a dynamic text display and an 'OK' button.
Used for general purpose control of boiler, zone values, circulation pumps, thermal actuators, electric heaters, heat pumps, etc. in heating and cooling systems.

Power source	transmitter (room unit): battery powered, 2 x 1,5 V AA Alkaline cells supplied; receiver (relay box): mains powered 230 V, 50 Hz
Battery life	2 years typical
Switch function/capacity	SPDT, 24..230 Vac, 10 A resistive, 3 A inductive
Protection class	IP30 (receiver and transmitter)
RF frequency range	868 ... 868,6 MHz
Blocking immunity	Receiver class 2 (ETSI EN300220-1 version 1.3.1)
Terminal max. wire size	2,5 mm^2
Temp. setpoint range	0 ... 35 °C
Control functions	Fuzzy Logic Algorithm
Temperature setpoints per day	6
Time setting resolution	time of day 1 minute, program 10 minute steps
Heating /Cooling application	H or C
Manual operation functions	manual setpoint setting (MAN) and frost protection (OFF) modes available
Holiday mode	yes
Optimisation	yes
Additional description	• LCD backlighting • automatic summer/winter time change • user program stored in non-volatile memory • factory pre-set RF link between the room unit and the relay box • installer set-up mode

7-day program

Default time display format	Party timer	Day off function	User panel language	Product literature language	Type
24 h	•	•	English	NL, F	**CMT927A1015**
24 h	•	•	French	F	**CMT927A1023**
24 h	•	•	Spanish	E	**CMT927A1031**
AM/PM	•	•	English	UK	**CMT927A1049**
24 h	•	•	Italian	I	**CMT927A1056**
24 h	•	•	English	D, HU, PO	**CMT927A1064**
24 h	•	•	English	CZ, SK, PL	**CMT927A1072**

1-day program

Default time display format	Party timer	Day off function	User panel language	Product literature language	Type
24 h	–	–	English	NL, F	**CMT921A1018**
24 h	–	–	French	F	**CMT921A1026**
AM/PM	–	–	English	UK	**CMT921A1042**

Chronotherms wireless

HC60NG Relay box

Relay box (1-off) with English and German literature	**R6660D1009**
Relay box (1-off) with Dutch and French literature	**R6660D1017**
Relay box (1-off) with French literature	**R6660D1025**
Relay box (1-off) with Spanish literature	**R6660D1033**
Relay box (1-off) with UK literature	**R6660D1041**
Relay box (1-off) with Italian literature	**R6660D1058**

CM920 Room unit

7-day Room unit spare (Belgian version)	**CMS927B1015**
7-day Room unit spare (French version)	**CMS927B1023**
7-day Room unit spare (Spanish version)	**CMS927B1031**
7-day Room unit spare (UK/English version)	**CMS927B1049**
7-day Room unit spare (Italian version)	**CMS927B1056**
7-day Room unit spare (German/Hungarian version)	**CMS927B1064**
7-day Room unit spare (Cz, Sk, Pol version)	**CMS927B1072**
7-day Room unit spare (Belgian version)	**CMS921B1018**
7-day Room unit spare (French version)	**CMS921B1026**
7-day Room unit spare (UK version)	**CMS921B1042**

Chronotherm with extended feature set and slim ultra-modern design CM907, CM901

The CM900 (CM907 or CM901) is a modern programmable room thermostat based on Honeywell's proven CM60 programming philosophy. To further improve the ease of use and assist installation, this product includes an extra large LCD display with backlighting, a dynamic text display and an 'OK' button.
Used for general purpose control of boilers, zone valves, circulation pumps, thermal actuators, electric heaters, heat pumps etc. in heating or cooling systems.

Power source	battery powered, 2 x 1,5 V AA Alkaline cells supplied
Battery life	2 years typical for applications with loads smaller than 3 A
Switch function/capacity	SPDT, 24..230 V, 50..60 Hz, 0,5..8 A resistive, 0,5..3 A inductive
Terminal max. wire size	2,5 mm^2
Temp. setpoint range	5 ... 35 °C
Temperature control accuracy	0,5 °C
Control functions	Proportional + Integral (PI) temperature control
Temperature setpoints per day	6 independent temperature setpoints
Time setting resolution	time of day - 1 minute, program - 10 minute steps
Heating /Cooling application	H or C
Manual operation functions	manual setpoint setting (MAN) and frost protection (OFF) modes available
Housing (HxWxD)	89 mm; 133 mm; 26 mm
Holiday mode	yes
Optimisation	yes
Additional description	• LCD backlight • automatic summer/winter time change • user program stored in non-volatile memory • input for remote temperature sensor or outside temperature sensor • input for telephone interface connection • installers set-up mode

7-day program

Default time display format	Party timer	Day off function	TRV-mode	User panel language	Product literature language	Type
24 h	•	•	–	Italian	I	**CM907I**
24 h	•	•	–	English	NL, F	**CMT907A1017**
24 h	•	–	•	English	NL, F	**CMT907A1082**
24 h	•	•	–	French	F	**CMT907A1025**
24 h	•	•	–	Spanish	E	**CMT907A1033**
AM/PM	•	•	–	English	UK	**CMT907A1041**
24 h	•	•	–	English	HU, D, PO	**CMT907A1066**
24 h	•	•	–	English	CZ, SK, PL	**CMT907A1074**

1-day program

Default time display format	Party timer	Day off function	TRV-mode	User panel language	Product literature language	Type
24 h	–	–	–	Italian	I	**CM901I**
24 h	–	–	–	English	NL, F	**CMT901A1010**
24 h	–	–	–	French	F	**CMT901A1028**
24 h	–	–	–	Spanish	E	**CMT901A1036**
AM/PM	–	–	–	English	UK	**CMT901A1044**

Accessories

Remote temperature sensor	**F42010972 001**
Outside temperature sensor	**F42010971 001**
Terminal block for telephone interface connection	**F42010977 001**

Chronotherm with comprehensive feature set and slim modern design CM707, CM702, CM701

The CM700 (CM707, CM702 or CM701) is a modern programmable room thermostat based on Honeywell's proven CM20 programming philosophy. To further improve the ease of use and assist installation, this product includes a large LCD display and an 'OK' button.
Used for general purpose control of boilers, zone valves, circulation pumps, thermal actuators, electric heaters, heat pumps etc. in heating systems.

Power source	battery powered, 2 x 1,5 V AA Alkaline cells supplied
Battery life	2 years typical
Switch function/capacity	SPDT, 24..230 V, 50..60 Hz, 0,5..5 A resistive, 0,5..2 A inductive
Terminal max. wire size	2,5 mm^2
Temp. setpoint range	5 ... 35 ^oC
Temperature control accuracy	0,5 ^oC
Control functions	Proportional + Integral (PI) temperature control
Time setting resolution	time of day - 1 minute, program - 10 minute steps
Heating /Cooling application	Heating only
Manual operation functions	manual setpoint setting (MAN) and frost protection (OFF) modes available
Housing (HxWxD)	88,5 mm; 133 mm; 26 mm
User panel language	English
Additional description	• user program stored in non-volatile memory • installers set-up mode

7-day program

Default time display format	Holiday mode	Temperature setpoints per day	Product literature language	Type
24 h	•	4	I, PO, E, F, D, NL	**CMT707A1003**
24 h	•	4	CZ, PL, SK, HU, RO, RU	**CMT707A1011**
AM/PM	•	4	UK	**CMT707A1029**
24 h	•	6	UK, GR, TU, CR, SL	**CMT707A1037**

1+1-day program

Default time display format	Holiday mode	Temperature setpoints per day	Product literature language	Type
24 h	–	4	I, PO, E, F, D, NL	**CMT702A1004**
24 h	–	6	I, PO, E, F, D, NL	**CMT702A1012**

1-day program

Default time display format	Holiday mode	Temperature setpoints per day	Product literature language	Type
24 h	–	4	I, PO, E, F, D, NL	**CMT701A1006**
AM/PM	–	4	UK	**CMT701A1014**

7-day analogue Chronotherm with unique wave design CM37

Analogue programmable thermostat with 7 day program.
For general purpose control of boilers, zone valves, circulation pumps, thermal actuators, electric heaters etc. in heating systems.

Power source	battery powered, 2 x 1,5 V AA Alkaline cells supplied
Battery life	1 year typical
Switch function/capacity	SPDT, 24..230V, 50..60Hz, 0,5..8A resistive, 0,5..3A inductive (0.6 pf)
Approvals	CE
Protection class	IP30
Terminal max. wire size	2,5 mm^2
Temperature setpoint range comfort	10 ... 30 ^oC
Temperature setpoint range economy	5 ... 25 ^oC
Temperature control accuracy	0,5 ^oC
Control functions	proportional + integral (PI) temperature control
Time setting resolution	1 hour, minimum setpoint change interval 2 hours
Heating /Cooling application	Heating only
Manual operation functions	override switch with: comfort, economy and auto positions
Housing (HxWxD)	90 mm; 135 mm; 29 mm

Product literature language	Model	Type
Multi-lingual (NL, F, D, GB, E)	international	**T6637B1009**
Italian	for Italy only	**CM37I**
Multi-lingual (NL, F, D, GB, E)	for Belgium only	**T6637B1017**

1-day analogue Chronotherm with unique wave design CM31

Analogue programmable thermostat with 1 day program.
For general purpose control of boilers, zone valves, circulation pumps, thermal actuators, electric heaters etc. in heating systems.

Power source	battery powered, 2 x 1,5 V AA Alkaline cells supplied
Battery life	1 year typical
Switch function/capacity	SPDT, 24..230V, 50..60Hz, 0,5..8A resistive, 0,5..3A inductive (0.6 pf)
Approvals	CE
Protection class	IP30
Terminal max. wire size	2,5 mm^2
Temperature setpoint range comfort	10 ... 30 ^oC
Temperature setpoint range economy	5 ... 25 ^oC
Temperature control accuracy	0,5 ^oC
Control functions	proportional + integral (PI) temperature control
Time setting resolution	15 minutes, minimum setpoint change interval 15 minutes
Heating /Cooling application	Heating only
Manual operation functions	override switch with: comfort, economy and auto positions
Housing (HxWxD)	90 mm; 135 mm; 29 mm

Product literature language	Model	Type
Multi-lingual (NL, F, D, GB, E)	international	**T6631B1005**
Italian	for Italy only	**CM31I**
Multi-lingual (NL, F, D, GB, E)	for Belgium only	**T6631B1021**

Digital room thermostat, DT90

Digital non-programmable thermostat with large LCD display and simple user interface.
For general purpose control of boilers, zone valves, pumps, thermal actuators, electric heaters and fan-coil units.

- self-learning TPI Fuzzy logic control
- adjustable proportional band
- adjustable on/off time
- frost protection
- setpoint limits
- fail-safe operation
- installer mode

Approvals	CE
Protection class	IP30
Switch function/capacity	SPDT 24..230 Vac, 8 A resistive, 3 A inductive; potential free
Power source	battery powered, 2 x 1,5 V AA Alkaline cells
Battery life	minimum 2 years
Terminal max. wire size	2,5 mm^2
Temp. setpoint range	5 ... 35 ^oC
Control output signal	on/off
Manual operation functions	-off/standby, -setpoint, -ECO
Heat/Cool manual mode	H/C
Product literature language	multilanguage user guide included in package
Earthing	double insulated
Housing (HxWxD)	92 mm; 90 mm; 27 mm

Model	Type
standard	**DT90A1008**
with ECO button for up to 24h energy-saving setback	**DT90E1012**

Wireless room thermostat, DT92

Room thermostat and relay box, with 2-way RF-communication between these units. The thermostat is non-programmable; it has a large LCD display and simple user interface.
For general purpose control of boilers, zone valves, pumps, thermal actuators, electric heaters and fan-coil units.

- self-learning TPI Fuzzy logic control
- adjustable proportional band
- adjustable on/off time
- frost protection
- setpoint limits
- fail-safe operation
- installer mode
- transmission and signal strength features

Approvals	CE
Protection class	IP30
Switch function/capacity	relay box with SPDT-switch 24..230 Vac, 5 A resistive, 3 A inductive; potential free
Power source	• relay box: 230 V, 1 VA • thermostat: battery powered, 2 x 1,5 V AA Alkaline cells
Battery life	minimum 2 years
Terminal max. wire size	2,5 mm^2
Temp. setpoint range	5 ... 35 ^oC
Control output signal	on/off

Manual operation functions	-off/standby, -setpoint, -ECO
Display functions	thermostat: • room temperature, setpoint, off/standby mode, relay status, RF communication, ECO mode and countdown • frost protection, internal fault, battery low, loss of RF communication
LED functions	relay box: • green LED for relay on/off status, transmission test • red LED for status in RF binding or reset modes, loss of RF communication
Product literature language	multilanguage user guide included in package
Earthing	double insulated
Housing (HxWxD)	92 mm; 90 mm; 27/30,5 mm

Thermostat with relay box

Model	Type
standard	**DT92A1004**
with ECO button for up to 24h energy-saving setback with adjustable setpoint	**DT92E1000**

Room thermostat 230Vac with SPST output, T4360A frost protect

Wall mounted line voltage room thermostat.
For frost protection of building fabric, contents, and exposed pipework.

Approvals	CE
Protection class	IP30
Terminal max. wire size	4 mm^2
Suitable for	frost protect
Temp. setpoint range	0 ... 20 °C
Differential fixed	1 °C
Temperature element	vapour filled
Temp. element place	built in
Heat anticipator	no
Heating /Cooling application	Heating only
Switch function/capacity	10(3) A
Earthing	double insulated
Housing (HxWxD)	83 mm; 83 mm; 40 mm
Additional description	Can be used in conjunction with L641B1004 pipe mounted thermostat to provide frost protection system for pipework. T4360A brings on heating in response to reduced temperatures, and L641B switches heating off when pipes have warmed up.

Tamperproof cover	Product literature language	Type
yes	English	**T4360A1009**
yes	Multilingual	**T4360A1017**
supplied	English	**T4360A1025**

Accessories

Range stops for limitation of setpoint adjustment (20 pieces)	**F42006646 001**
Wall-plate to allow mounting onto different wall-boxes	**F42007789 001**
Frost protection kit, comprising T4360A + L641B	**K42008268-001**

Room thermostat 230Vac with SPST output, T4360 heat

Wall mounted line voltage room thermostat.
For special applications involving control of gas valves, zone valves, circulation pumps, ventilators, boilers etc. in heating systems.

Approvals	CE
Protection class	IP30
Terminal max. wire size	4 mm^2
Temp. setpoint range	10 ... 30 °C
Differential fixed	1 °C
Temperature element	vapour filled
Temp. element place	built in
Heating /Cooling application	Heating only
Earthing	double insulated
Housing (HxWxD)	83 mm; 83 mm; 40 mm
Additional description	Lamp is supplied potential free, and can be wired to indicate operating mode, or boiler lock out.

Suitable for	Heat anticipator	Manual operation functions	Switch function/ capacity	Lamp function	Temperature scale	Tamperproof cover	Product literature language	Type
electric heat	–	–	16 A	–	–	–	Multilingual	**T4360B1007**
electric heat	–	–	16 A	–	–	–	English	**T4360B1015**
electric heat	–	–	16 A	heating on	–	–	Multilingual	**T4360B1031**
electric heat	–	–	16 A	–	1..5	–	English	**T4360B1080**
electric heat	–	–	16 A	–	–	supplied	English	**T4360B1098**
heating	•	on/off switch	10(3) A	–	–	–	Multilingual	**T4360C1021**
night setback	•	on/off switch	10(3) A	–	–	–	Multilingual	**T4360C1039**
night setback	•	–	10(3) A	–	–	–	Multilingual	**T4360E1000**
night setback	•	–	10(3) A	–	–	–	English	**T4360E1018**
thermal actuator	•	–	2(2) A	–	–	–	Multilingual	**T4360F1008**

Accessories

Range stops for limitation of setpoint adjustment (20 pieces)	**F42006646 001**
Opaque tamperproof cover to prevent thermostat from damage	**F42007110 001**
Transparent tamperproof cover to prevent thermostat from damage	**F42007110 002**
Wall-plate to allow mounting onto different wall-boxes	**F42007789 001**

Room thermostat 230Vac with SPST output, T4360 heat/cool

Wall mounted line voltage room thermostat.
For special applications involving manual heat/cool changeover in heating or cooling systems.

Approvals	CE
Protection class	IP30
Terminal max. wire size	4 mm^2
Suitable for	changeover
Temp. setpoint range	10 ... 30 ^oC
Differential fixed	1 ^oC
Temperature element	vapour filled
Temp. element place	built in
Heat anticipator	no
Heating /Cooling application	H or C
Heat/Cool manual mode	H/C
Switch function/capacity	6(2) A
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	83 mm; 83 mm; 40 mm
Additional description	Lamp is supplied potential free, and can be wired to indicate operating mode or other function.

Lamp function	Type
–	**T4360D1003**
wiring dependent	**T4360D1011**

Accessories

Range stops for limitation of setpoint adjustment (20 pieces)	**F42006646 001**
Opaque tamperproof cover to prevent thermostat from damage	**F42007110 001**
Transparent tamperproof cover to prevent thermostat from damage	**F42007110 002**
Wall-plate to allow mounting onto different wall-boxes	**F42007789 001**

Room thermostat 230 Vac, with SPDT output, T6360

Wall mounted line voltage room thermostat.
For general purpose control of gas valves, zone valves, circulation pumps, ventilators, boilers etc. in heating or cooling systems.

Approvals	CE
Protection class	IP30
Switch function/capacity	SPDT 230 Vac, heating terminal 10 A resistive, 3 A inductive; cooling terminal 6 A resistive, 2 A inductive
Terminal max. wire size	4 mm^2
Temp. setpoint range	10 ... 30 °C
Differential fixed	1 °C
Temperature element	vapour filled
Temp. element place	built in
Heating /Cooling application	H or C
Earthing	double insulated
Housing (HxWxD)	83 mm; 83 mm; 40 mm
Additional description	Lamp is generally supplied potential free, and can be wired to indicate heating or cooling operation, or boiler lockout.

Heat anticipator	Manual operation functions	Lamp function	Temperature scale	Tamperproof cover	Product literature language	Type
–	–	–	–	–	Multilingual	**T6360A1004**
–	–	wiring dependent	–	–	Multilingual	**T6360A1012**
•	–	–	–	–	Multilingual	**T6360B1002**
•	–	wiring dependent	–	–	Multilingual	**T6360B1010**
•	–	–	–	–	English	**T6360B1028**
•	–	heating on	–	–	English	**T6360B1036**
•	–	–	–	yes	English	**T6360B1069**
•	–	–	1..5	–	English	**T6360B1085**
•	–	–	–	yes	Multilingual	**T6360B1093**
•	–	–	–	supplied	English	**T6360B1168**
–	on/off switch	–	–	–	Multilingual	**T6360C1000**
–	on/off switch	wiring dependent	–	–	Multilingual	**T6360C1018**

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	**F42006646 001**
Opaque tamperproof cover to prevent thermostat from damage	**F42007110 001**
Transparent tamperproof cover to prevent thermostat from damage	**F42007110 002**
Wall-plate to allow mounting onto different wall-boxes	**F42007789 001**

Room thermostat 24Vac with SPST output, T8360

Wall mounted low voltage room thermostat, with gold-plated contacts and series 18 ohm anticipator. For low voltage control of zone valves, circulation pumps, boilers, etc.

Approvals	CE
Protection class	IP30
Switch function/capacity	SPST 24Vac, 88..127 mA with series anticipator connected
Terminal max. wire size	4 mm^2
Temp. setpoint range	10 ... 30 ^oC
Differential fixed	1 ^oC
Temperature element	vapour filled
Temp. element place	built in
Heat anticipator	yes
Heating /Cooling application	Heating only
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	83 mm; 83 mm; 40 mm
Additional description	Switch rating of 10..500 mA if series anticipator is not connected, by wiring input to terminal 1.

	Type
	T8360A1000

Accessories

Range stops, to limit setpoint adjustment (20 pieces)	F42006646 001
Opaque tamperproof cover to prevent thermostat from damage	F42007110 001
Transparent tamperproof cover to prevent thermostat from damage	F42007110 002
Wall-plate to allow mounting onto different wall-boxes	F42007789 001

Water temperature control thermostat, 230Vac, SPDT output, L641

Surface mounting thermostat for applications with hot water storage cylinders or water pipes. For temperature control of hot water storage cylinders, high and low temperature limiting on water pipes, and automatic heat/cool changeover for 2-pipe fan-coil systems.

Approvals	CE
Protection class	IP30
Switch function/capacity	SPDT 230Vac, 4 A resistive, 2 A inductive
Wiring connection	Screw terminals (x3)
Terminal max. wire size	1,5 mm^2
Differential fixed	10 °C
Media temp.	0 ... 95 °C
Ambient temperature	0 ... 70 °C
Temperature element	bimetal
Housing (HxWxD)	79 mm; 44 mm; 54 mm
Additional description	Thermostat delivered with mounting strap for cylinders (L641A) or mounting springs for pipes (L641B). • A manual setting knob is supplied with L641A. • A tamperproof cover is supplied with L641B.

Suitable for	Temp. setpoint range °C	Mounting place	Tamperproof cover	Type
water temperature control	40 ... 80	on cylinder	–	**L641A1039**
low limit or H/C changeover	2 ... 40	strap on pipe	supplied	**L641B1004**
high limit	50 ... 95	strap on pipe	supplied	**L641B1012**

Digital timer 230Vac SPST outputs, ST699/799

Electronic 2 zone timers with digital display and linked heating and hot water time programmes. For hydronic central heating applications.

Approvals	CE
Protection class	IP20
Power supply	230 Vac; 10 VA
Control output	relays
Switch function/capacity	2 x SPST output 230Vac, 3 A resistive, 3 A inductive ratings
Terminal max. wire size	1,5 mm^2
Time setting resolution	1 min. for clock, 10 min. for programmes
Memory back-up	battery back-up maintains programmes and real time for 7 days
LED functions	indicate zone on/off
Modes of operations	off/cont/twice/once
Number of outputs for zones	2
Programmed on/off periods per day	2
Product literature language	English
Earthing	double insulated
Housing (HxWxD)	100 mm; 100 mm; 38 mm
Additional description	ST699/799 time controls have built-up startup programme, temporary override facilities, and choice of AM/PM or 24-hour clock display. ST799 model has LCD backlighting.

Clock functions	Type
1 day	**ST699B1002**
7 day	**ST799A1003**

Digital timer 230Vac SPDT outputs, ST6000 series

Electronic 1 and 2 zone timers with digital display.
For hydronic central heating and other time control applications.

Approvals	CE
Protection class	IP30
Power supply	230 Vac; 10 VA
Control output	relays
Switch function/capacity	2 x SPDT output 230Vac, 3 A resistive, 3 A inductive ratings
Terminal max. wire size	1,5 mm^2
Time setting resolution	1 min. for clock, 10 min. for programmes
Memory back-up	battery back-up maintains programmes and real time for 4 days
LED functions	indicate zone on/off
Product literature language	English
Earthing	double insulated
Housing (HxWxD)	95 mm; 145 mm; 45 mm
Additional description	ST6000 time controls have built-up startup programme, temporary override facilities, and choice of AM/PM or 24-hour clock display.

Modes of operations	Clock functions	Number of outputs for zones	Programmed on/off periods per day	Independent zone programmes	Hot Water or Heating + Hot Water switch	Type
off/auto/once/cont	1 day	1	3	–	–	**ST6100A1001**
off/auto/once/cont	7 day	1	2	–	–	**ST6100C1009**
off/HW/HW+CH	1 day	2	2	–	•	**ST6200A1009**
off/auto/once/cont	1 day	2	2	–	–	**ST6300A1007**
off/auto/once/cont	7 day	2	3	•	–	**ST6400C1003**
off/auto/once/cont	1 day	2	2	•	–	**ST6400A1005**

Zoning control Page

Wireless **12-2**

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Honeywell

Wireless individual room control system evohome

Multi-zone controller providing a very explanatory touch-screen display for intuitive operation by finger tip or touch-pen. Available both as a table or wall device. A total of up to eight individual temperature zones and time programs can be set up. The controller is part of the evohome individual room control system and therefore also equipped with the proven wireless RF (868 MHz) technology.
Control system for radiators, underfloor heating and mixing valves in home or office environment with optional control for boiler and heat pump.

- evotouch controller for individual zoning control up to 8 zones
- intuitive local language operating menu structure and user guided programming
- large touch screen display with easy to read zone and temperature information; backlit display
- modern design with exchangeable front covers in polished black, brushed metal and gloss white
- simple binding operation to reduce installation time and cost
- proven wireless communication (no disruption of interior decor, ideally suitable for existing homes)
- prepared for new functionalities via PC link
- optimized heating control
- evotouch is supplied with 2 rechargeable batteries AA 1,2V NiMH

More Information http://www.evohome.info

Product description	Type
evotouch controller (user panel)	**ATC928G1000**
package containing evotouch and 4 radiator controllers HR80	**ATP924G1002**

Accessories for evotouch

Table stand with power supply and EU power cord	**ATF100**
Table stand with power supply and UK power cord	**ATF200**
Wall pack with power supply	**ATF300**
3 interchangable front covers (polished black, brushed metal, high-gloss white)	**ATF400**

evohome components

Underfloor heating 5 zone controller, analog output boiler (apply HRA80)	**HCE80**
Underfloor heating 5 zone controller, relay output boiler (apply HRA80)	**HCE80R**
Underfloor heating 5 zone controller, analog output boiler (with antenna)	**HCC80**
Underfloor heating 5 zone controller, relay output boiler (with antenna)	**HCC80R**
Active antenna for HCE80/HCE80R	**HRA80**
OpenTherm bridge	**R8810A1018**
Underfloor heating submodule for 3 additional zones	**HCS80**
Room sensor	**HCF82**
Room sensor with setpoint adjustment	**HCW82**
Thermostat with relay box	**DT92A1004**
Mixing valve controller	**HM80**
Radiator controller	**HR80**
Relay module 5 A	**BDR91A1000**
HC60NG relay box (English/German literature)	**R6660D1009**
Sensor-module for sun-intensity and outdoor temperature	**HB85**

Actuators

Actuator Normally Open	**MT4-230-NO**
Actuator Normally Closed	**MT4-230-NC**

RF underfloor heating zone control system HCE80

Zone controller for underfloor heating with Radio Frequency bi-directional communication (868,3 MHz). The basic configuration is for 5 zones. With the submodule HCS80 expandable to 8 zones. For room temperature setpoint setting without time program apply the HCW82 wall module. In case time programs are needed, use the central operator unit CM67z or HCM200D-xx.

- 2 push button operation
- configuration switch for thermoactuators normally open/closed
- error display via blinking zone LED
- status display for valve open = green zone LED on
- RF communication check
- up to 3 controllers can be connected to 1 antenna, external HRA80 or internal antenna

Control software	self learning fuzzy logic room temperature control
Hardware inputs	• connection for external antenna HRA80 • heating/cooling contact
Hardware outputs	• 5 outputs for max. 15 actuators (max. 3 actuators per zone) MT4-230 • output for pump control • for HCE80, HCC80: analog output for boiler feedback (MCR40, MCR200, Panther, Tiger, Smile, ZG252) • for HCE80R, HCC80R: relay output (potential free contact 42 V for boiler control)
Mounting	DIN-rail or wall
Type of terminals	removable connectors with clip contact
Power supply	230 Vac, 50Hz, 1750 VA with connected pump (max. 6 A)
More Information	http://ufh.ecc.emea.honeywell.com

With analog output for boiler feedback

Product description	Type
Underfloor heating controller (apply external antenna HRA80)	**HCE80**
Underfloor heating controller, with internal antenna	**HCC80**

With relay output

Product description	Type
Underfloor heating controller (apply external antenna HRA80)	**HCE80R**
Underfloor heating controller, with internal antenna	**HCC80R**

Accessories

Product description	Type
Submodule for 3 additional zones	**HCS80**
Room sensor	**HCF82**
Room sensor and setpoint adjustment	**HCW82**
Active antenna for HCE80/HCE80R	**HRA80**

Package

Product description	Type
1x HCE80, 1x HRA80, 3x HCW82, 4x MT4-230-NC	**HPF80**

Additional Control units

Central control unit, with 2 time programs, CM67z	**T6667Z1072**
Central control unit, with 16 time programs HCM200D-xx	**HCM200D-UK**
Wireless programmable control unit with 7-day clock for usage with HCE80, YZ667A1011, R6660D1017	**CMS927B1015**
Electronic radiator controller	**HR80**
Relay module for boiler interlock HC60NG	**R6660D1009**

Actuators

Actuator Normally Open	**MT4-230-NO**
Actuator Normally Closed	**MT4-230-NC**

Universal mixing valve controller

Wireless universal mixing valve controller for heating or cooling zone control. The controller receives heat demand signals (RF 868,3 MHz)from thermostats CM67RFMV or CM67z, or from the Hometronic operating unit HCM200D-xx.
The CM67RFMV also provides parameter settings for: minimum water temperature setpoint, mixing valve runtime, pump after running ime and heating or cooling operation mode.

Control output signal	• 2x 230 V (3 A) on relay contacts for mixing valve open/close (not potential free contacts!) • 230 V (3 A) on relay contact for pump on/off (not a potential free contact!)
Control functions	room temperature control; water temperature control (optional)
Manual operation functions	push buttons for valve open/close
LED functions	mixing valve open/close: red/green; pump on: green; and several error messages: red
Power supply	230 V;50Hz; max. 1380 VA
RF communication distance	30 m
Blocking immunity	Receiver class 2 (ETSI EN300220-1 version 1.3.1)
Protection class	IP54
Mounting	DIN-rail or wall
Housing (HxWxD)	161,5 mm; 121 mm; 46 mm

Controller

Product description	Type
Universal mixing valve controller	**HM80**

Packages

Product description	Type
1x CM67RFMV, 1x HM80, 4x Eurofix cable glands	**HMC80**
1x CM67RFMV, 1x HM80, 4x Eurofix cable glands, 1x T7414C1012	**HMC82**

Additional products for HM80

Chronotherm room thermostat	**CM67RFMV**
Flow temperature sensor (optional)	**T7414C1012**

RF Electronic radiator controller HR80

Radiator controller with Radio Frequency communication to the HCM200D-xx Central Operating unit or to the CM67z thermostat. The room temperature setpoint can be set with the HCM200D-xx and on the controller. A display shows the setpoint temperature and the status functions. Because of bi-directional communication (868 MHz), the boiler can be controlled depending on the heat demand. The radiator controller can be fitted with ease to any conventional radiator valve (Honeywell, Braukmann, MNG, Heimeier, Danfoss RA etc.).

Control functions	room temperature control, energy savings and self monitoring functions for protection against valve plock and frost
Clock functions	with HCM200D-xx: the time program is free programmable with a daily/weekly program
Temp. setpoint range	8 ... 28 °C
Temperature element	NTC20k
Temp. element place	built in
Frost protection temperature	6 °C
Shut-off facility	yes
Stroke	3,2 mm
Batteries	included 2 x AA
Housing (HxWxD)	80 mm; 50 mm; 105 mm

	Type
	HR80
Central operating units	
Operating unit for 1..16 zones HCM200D-xx	HCM200D-UK
Operating unit for 2 zones, CM67z	T6667Z1072
Accessories	
Protection cap for HR80	HVS80
Power supply for HCM200D-xx (plug-in socket)	HN10
Power supply transformer	HTU10
Power supply cabinet mounting	HTS10
RF handheld for mobile system control	HRD80
Valve adapters for HR80	
Vaillant	HCA1VEL
Oventrop	HU01
Herz HR	HU02
Danfoss RAV/RAVL/RA	EVA1-DANFOSS

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13

Honeywell

Thera-100 Radiator Thermostat

A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator.

- TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Radiator thermostats of this type fulfill the European Standard EN215 when used with certified Honeywell TRV bodies.
- Honeywell radiator thermostats with Honeywell (HW) M30x1.5 connection are suitable for all TRV body and radiator inserts with M30x1.5 connection and 11.5mm closing dimension.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	Conforms with M30 x 1.5 connection to European standard EN215
Body-head connection	M30 x 1,5
Closing dimension	11,5 mm
Temp. element place	internal
Temperature element	wax-filled
Colour	white
Temp. setpoint range	6 ... 26 °C
Temperature scale	1..6
Zero-position	yes
Additional description	• Equipped with wax sensor • Over-temperature protection • Modern, ergonomical design with red economy button for optimal setting • Compact size

Thera-100

	Type
	T1002W0

Thera-100

	Type
	T1002W0GB

Accessories

Special tool for assembly of radiator thermostats	VA8210A001
DA-Adapter from Danfoss snap connection RA to M30 x 1.5	TA1010DA01
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	TA1010HZ01

Thera-200 Design (T4000 Series) Radiator Thermostat

A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator.

- TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Radiator thermostats of this type fulfill the European Standard EN 215 when used with certified Honeywell TRV bodies.
- Honeywell radiator thermostats with Honeywell (HW) M30 x 1.5 connection are suitable for all TRV body and radiator inserts with M30 x 1.5 connection and 11.5 mm closing dimension.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	Conforms with M30 x 1.5 connection to European standard EN215
Body-head connection	M30 x 1,5
Closing dimension	11,5 mm
Temp. element place	internal
Temperature element	liquid-filled
Temp. setpoint range	6 ... 26 °C
Temperature scale	1..6
Zero-position	no

Thera-200 Design

Colour	Type
white/chrome	**T4021**
white/chrome	**T4021GB**
black/chrome	**T4321**
chrome/chrome	**T4221**
chrome/chrome	**T4221GB**
brushed/brushed	**T4111**

Thera-200 Design theft-protected

Colour	Type
white/chrome	**T4021V1**

Thera-4 Classic (T3000 Series) Radiator Thermostat

A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator.

- TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Radiator thermostats of this type fulfill the European Standard EN 215 when used with certified Honeywell TRV bodies.
- Honeywell radiator thermostats with Honeywell (HW) M30 x 1.5 connection are suitable for all TRV body and radiator inserts with M30 x 1.5 connection and 11.5 mm closing dimension.
- Radiator Thermostats of this type with snapring (DA) type connection are suitable for TRV bodies and valve inserts with Danfoss (RA) type compatible snap connection.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	Conforms with M30 x 1.5 connection to European standard EN 215
Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Temperature element	liquid-filled
Colour	white to RAL9016
Temperature scale	1..5

Thera-4 Classic with M30 x 1,5 connection and liquid-filled sensing element

Body-head connection	Temp. element place	Capillary tube length m	Temp. setpoint range °C	Zero-position	Type
M30 x 1,5	internal	–	6 ... 28	–	**T3001**
M30 x 1,5	internal	–	1 ... 28	•	**T3001W0**

Thera-4 Classic with M30 x 1,5 connection and remote sensing element

Body-head connection	Temp. element place	Capillary tube length m	Temp. setpoint range °C	Zero-position	Type
M30 x 1,5	remote	2	6 ... 28	–	**T300120**
M30 x 1,5	remote	2	1 ... 28	•	**T300120W0**
M30 x 1,5	remote	5	6 ... 28	–	**T300150**
M30 x 1,5	remote	5	1 ... 28	•	**T300150W0**

Thera-4 Classic with DA type connection and liquid-filled sensing element

Body-head connection	Temp. element place	Capillary tube length m	Temp. setpoint range °C	Zero-position	Type
RA-type	internal	–	6 ... 28	–	**T3001DA**
RA-type	internal	–	1 ... 28	•	**T3001DAW0**

Thera-4 Classic with DA type connection and remote sensing element

Body-head connection	Temp. element place	Capillary tube length m	Temp. setpoint range °C	Zero-position	Type
RA-type	remote	2	6 ... 28	–	**T300120DA**
RA-type	remote	2	1 ... 28	•	**T300120DAW0**

Accessories

Range stops (10 blue and 10 red)	**TA3000C001**
Range stops (20 white)	**TA3000C002**
Theft-protection ring, white (RAL9016)	**TA6900A001**
Torx-Screwdriver for theft-protection ring	**TA6900B001**
Decoring for connection nut, white (RAL9016); 10 pair, 20 pieces	**TA1000A001**
Decoring for connection nut, white (RAL9016); 1 pair, 2 pieces	**TA1000A011**
Decoring for connection nut, chrome; 10 pair, 20 pieces	**TA1000A002**
Decoring for connection nut, chrome; 1 pair, 2 pieces	**TA1000A022**
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	**TA1010HZ01**
Special tool for assembly of thermostat	**VA8210A001**

Thera-4 Design (T2000 Series) Radiator Thermostat

A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator.

- TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators. Radiator thermostats of this type fulfill the European Standard EN215 when used with certified Honeywell TRV bodies.
- Honeywell radiator thermostats with Honeywell (HW) M30x1.5 connection are suitable for all TRV body and radiator inserts with M30x1.5 connection and 11.5mm closing dimension.
- Radiator Thermostats of this type with snapring (DA) type connection are suitable for TRV bodies and valve inserts with Danfoss (RA) type compatible snap connection.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	Conforms with M30 x 1.5 connection to European stan-dard EN215
Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Temp. element place	internal
Temperature element	liquid-filled
Temperature scale	1..5

Thera-4 Design with M30 x 1,5 connection

Body-head connection	Colour	Temp. setpoint range (°C)	Zero-position	Type
M30 x 1,5	white	6 ... 28	–	**T2001**
M30 x 1,5	white	1 ... 28	•	**T2001W0**
M30 x 1,5	white / chrome	6 ... 28	–	**T2021**
M30 x 1,5	white / chrome	1 ... 28	•	**T2021W0**
M30 x 1,5	chrome / chrome	6 ... 28	–	**T2221**
M30 x 1,5	chrome / chrome	1 ... 28	•	**T2221W0**

Thera-4 Design with DA type connection

Body-head connection	Colour	Temp. setpoint range (°C)	Zero-position	Type
RA-type	white	6 ... 28	–	**T2001DA**
RA-type	white	1 ... 28	•	**T2001DAW0**
RA-type	white / chrome	6 ... 28	–	**T2021DA**
RA-type	white / chrome	1 ... 28	•	**T2021DAW0**
RA-type	chrome / chrome	6 ... 28	–	**T2221DA**
RA-type	chrome / chrome	1 ... 28	•	**T2221DAW0**

Accessories

Range stops (10 blue and 10 red)	**TA3000C001**
Range stops (20 white, RAL9016)	**TA3000C002**
Theft-protection ring, white (RAL9016)	**TA6900A001**
Torx-Screwdriver for theft-protection ring	**TA6900B001**
Decoring for connection nut, white (RAL9016); 10 pair, 20 pieces	**TA1000A001**
Decoring for connection nut, white (RAL9016); 1 pair, 2 pieces	**TA1000A011**
Decoring for connection nut, Chrome; 10 pair, 20 pieces	**TA1000A002**
Decoring for connection nut, Chrome; 1 pair, 2 pieces	**TA1000A022**
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	**TA1010HZ01**
Special tool for assembly of thermostat	**VA8210A001**

Thera-3 (T6000 Series) Design radiator thermostat

A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator.

- TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Radiator thermostats of this type fulfill the European Standard EN 215 when used with certified Honeywell TRV bodies.
- Honeywell radiator thermostats with Honeywell (HW) M30 x 1.5 connection are suitable for all TRV body and radiator inserts with M30 x 1.5 connection and 11.5 mm closing dimension.
- Radiator Thermostats of this type with snapring (DA) type connection are suitable for TRV bodies and valve inserts with Danfoss (RA) type compatible snap connection.
- Radiator Thermostats of this type with Herz (Hz) type connection are suitable for TRV bodies and valve inserts with Herz M28 x 1.5 connection and 9.5 mm closing dimension.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	Conforms with M30 x 1.5 connection to European standard EN 215
Setpoint blocking	yes
Setpoint limiting	yes
Colour	white to RAL9016
Temperature scale	1..5

Thera-3 with M30 x 1,5 connection and internal sensing element

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
M30 x 1,5	11,5	internal	–	liquid-filled	6 ... 28	–	MNG	**T6001**
M30 x 1,5	11,5	internal	–	liquid-filled	6 ... 28	–	none	**T6001C**
M30 x 1,5	11,5	internal	–	liquid-filled	6 ... 28	–	Honeywell	**T6001H**
M30 x 1,5	11,5	internal	–	liquid-filled	1 ... 28	•	MNG	**T6001W0**
M30 x 1,5	11,5	internal	–	liquid-filled	1 ... 28	•	none	**T6001W0C**
M30 x 1,5	11,5	internal	–	liquid-filled	1 ... 28	•	Honeywell	**T6001W0H**
M30 x 1,5	11,5	internal	–	wax-filled	6 ... 28	–	MNG	**T6002**
M30 x 1,5	11,5	internal	–	wax-filled	6 ... 28	–	none	**T6002C**
M30 x 1,5	11,5	internal	–	wax-filled	6 ... 28	–	Honeywell	**T6002H**
M30 x 1,5	11,5	internal	–	wax-filled	1 ... 28	•	MNG	**T6002W0**
M30 x 1,5	11,5	internal	–	wax-filled	1 ... 28	•	none	**T6002W0C**
M30 x 1,5	11,5	internal	–	wax-filled	1 ... 28	•	Honeywell	**T6002W0H**

Thera-3 with M30 x 1,5 connection and remote sensing element

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
M30 x 1,5	11,5	remote	800	liquid-filled	6 ... 28	–	MNG	**T600108**
M30 x 1,5	11,5	remote	2000	liquid-filled	6 ... 28	–	MNG	**T600120**
M30 x 1,5	11,5	remote	5000	liquid-filled	6 ... 28	–	MNG	**T600150**
M30 x 1,5	11,5	remote	800	liquid-filled	1 ... 28	•	MNG	**T600108W0**
M30 x 1,5	11,5	remote	2000	liquid-filled	1 ... 28	•	MNG	**T600120W0**
M30 x 1,5	11,5	remote	5000	liquid-filled	1 ... 28	•	MNG	**T600150W0**
M30 x 1,5	11,5	remote	800	liquid-filled	1 ... 28	•	Honeywell	**T600108W0H**
M30 x 1,5	11,5	remote	2000	liquid-filled	1 ... 28	•	Honeywell	**T600120W0H**

Thera-3-DA with Danfoss RA-type connection and internal sensing element

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
RA-type	11,5	internal	–	liquid-filled	6 ... 28	–	MNG	**T6001DA**
RA-type	11,5	internal	–	liquid-filled	6 ... 28	–	none	**T6001DAC**
RA-type	11,5	internal	–	liquid-filled	6 ... 28	–	Honeywell	**T6001DAH**
RA-type	11,5	internal	–	liquid-filled	1 ... 28	•	MNG	**T6001DAW0**
RA-type	11,5	internal	–	liquid-filled	1 ... 28	•	none	**T6001DAW0C**
RA-type	11,5	internal	–	liquid-filled	1 ... 28	•	Honeywell	**T6001DAW0H**

Thera-3-HZ with Herz-type connection and internal sensing element

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
M28 x 1,5	9,5	internal	–	liquid-filled	6 ... 28	–	MNG	**T6001HZ**
M28 x 1,5	9,5	internal	–	liquid-filled	1 ... 28	•	MNG	**T6001HZW0**

Accessories

Decoring for connection nut, white (RAL9016); 10 pair, 20 pieces	**TA1000A001**
Decoring for connection nut, white (RAL9016); 1 pair, 2 pieces	**TA1000A011**
Decoring for connection nut, chrome; 10 pair, 20 pieces	**TA1000A002**
Decoring for connection nut, chrome; 1 pair, 2 pieces	**TA1000A022**
Trim ring, white	**TA1000B001**
Cover cap for customer-specific logos, white	**TA6000A001**
Theft-protection ring, white (RAL9016)	**TA6900A001**
Special screwdriver for theft-protection ring	**TA6900B001**
Special tool for assembly of thermostat	**VA8210A001**

Thera-2 (T9000 Series) Radiator thermostat

A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator.

- TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Radiator thermostats of this type fulfill the European Standard EN 215 when used with certified Honeywell TRV bodies.
- Honeywell radiator thermostats with Honeywell (HW) M30 x 1.5 connection are suitable for all TRV body and radiator inserts with M30 x 1.5 connection and 11.5 mm closing dimension.
- Radiator Thermostats of this type with snapring (DA) type connection are suitable for TRV bodies and valve inserts with Danfoss (RA) type compatible snap connection.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	Conforms with M30 x 1.5 connection to European standard EN 215
Setpoint blocking	yes
Setpoint limiting	yes
Colour	white to RAL9016
Temperature scale	1..5
Additional description	• Available with liquid- or wax sensor • Equipped with easy to use range stoppers • Modern ergonomical design

Thera-2 with M30 x 1,5 connection and internal sensing element

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
M30 x 1,5	11,5	internal	–	liquid-filled	6 ... 28	–	MNG	**T9001**
M30 x 1,5	11,5	internal	–	liquid-filled	1 ... 26	•	MNG	**T9001W0**
M30 x 1,5	11,5	internal	–	liquid-filled	1 ... 26	•	Honeywell	**T9001W0H**
M30 x 1,5	11,5	internal	–	wax-filled	6 ... 28	–	MNG	**T9002**
M30 x 1,5	11,5	internal	–	wax-filled	1 ... 26	•	MNG	**T9002W0**
M30 x 1,5	11,5	internal	–	wax-filled	1 ... 26	•	Honeywell	**T9002W0H**

Thera-2 with M30 x 1,5 connection and internal sensing element, Eastern European version

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
M30 x 1,5	11,5	internal	–	liquid-filled	6 ... 28	–	MNG	**T9001HP**
M30 x 1,5	11,5	internal	–	liquid-filled	1 ... 26	•	MNG	**T9001W0HP**

Thera-2 with M30 x 1,5 connection and remote sensing element

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
M30 x 1,5	11,5	remote	800	liquid-filled	6 ... 28	–	MNG	**T900108**
M30 x 1,5	11,5	remote	2000	liquid-filled	6 ... 28	–	MNG	**T900120**
M30 x 1,5	11,5	remote	5000	liquid-filled	6 ... 28	–	MNG	**T900150**
M30 x 1,5	11,5	remote	800	liquid-filled	1 ... 26	•	MNG	**T900108W0**
M30 x 1,5	11,5	remote	2000	liquid-filled	1 ... 26	•	MNG	**T900120W0**
M30 x 1,5	11,5	remote	5000	liquid-filled	1 ... 26	•	MNG	**T900150W0**

Thera-2 with DA type connection and internal sensing element

Body-head connection	Closing dimension mm	Temp. element place	Capillary tube length mm	Temperature element	Temp. setpoint range °C	Zero-position	Cover cap	Type
RA-type	–	internal	–	liquid-filled	6 ... 28	–	MNG	**T9001DA**
RA-type	–	internal	–	liquid-filled	6 ... 28	–	Honeywell	**T9001DAH**
RA-type	–	internal	–	liquid-filled	1 ... 26	•	MNG	**T9001DAW0**
RA-type	–	internal	–	liquid-filled	1 ... 26	•	Honeywell	**T9001DAW0H**

Accessories

Decoring for connection nut, white (RAL9016); 10 pair, 20 pieces	**TA1000A001**
Decoring for connection nut, white (RAL9016); 1 pair, 2 pieces	**TA1000A011**
Decoring for connection nut, chrome; 10 pair, 20 pieces	**TA1000A002**
Decoring for connection nut, chrome; 1 pair, 2 pieces	**TA1000A022**
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	**TA1010HZ01**
Theft-protection ring, white	**TA6900A001**
Torx-Screwdriver for theft-protection ring	**TA6900B001**

2080 (T7000) Radiator thermostat

A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator.

- TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Radiator thermostats of this type fulfill the European Standard EN 215 when used with certified Honeywell TRV bodies.
- Honeywell radiator thermostats with Honeywell (HW) M30 x 1.5 connection are suitable for all TRV body and radiator inserts with M30 x 1.5 connection and 11.5 mm closing dimension.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	Conforms with M30 x 1.5 connection to European standard EN 215
Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temperature element	liquid-filled
Colour	white to RAL9016

2080 with internal sensing element

Temp. element place	Capillary tube length m	Temp. setpoint range °C	Temperature scale	Zero-position	Type
internal	–	6 ... 28	1..5	–	**T7001**
internal	–	1 ... 28	1..5	•	**T7001W0**
internal	–	6 ... 21	1..3	–	**T7001B3**

2080 with remote sensing element

Temp. element place	Capillary tube length m	Temp. setpoint range °C	Temperature scale	Zero-position	Type
remote	0,8	6 ... 28	1..5	–	**T700108**
remote	2	6 ... 28	1..5	–	**T700120**
remote	5	6 ... 28	1..5	–	**T700150**
remote	0,8	1 ... 28	1..5	•	**T700108W0**
remote	2	1 ... 28	1..5	•	**T700120W0**
remote	2	6 ... 21	1..3	–	**T700120B3**

Accessories

Decoring for connection nut, white (RAL9016); 10 pair, 20 pieces	**TA1000A001**
Decoring for connection nut, white (RAL9016); 1 pair, 2 pieces	**TA1000A011**
Decoring for connection nut, chrome; 10 pair, 20 pieces	**TA1000A002**
Decoring for connection nut, chrome; 1 pair, 2 pieces	**TA1000A022**
DA-Adapter from Danfoss snap connection RA to M30 x 1.5	**TA1010DA01**
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	**TA1010HZ01**
Theft-protection ring with Allan screws	**TA2080A001**
Theft-protection ring with double-punched screws	**TA2080A002**
Special screwdriver for double-punched screws	**TA2080B002**
Special tool for assembly of thermostat	**VA8210A001**

2080 WL (T7500) Thermostat with remote sensor for water and air

Thermostatic radiator valve head for water and air with remote sensing element. Supplied with memory clip. Concealed limiting and blocking of setpoint range, setting with memory clip. Suitable for

- all Honeywell thermostatic radiator valve bodies, and
- all Honeywell valve series M, and
- all thermostatic radiator valve bodies with M30 x 1,5 connection and 11,5 mm closing dimension.

For water-based heating systems and boiler applications

- on the supply of air heaters,
- as mixer control for underfloor heating,
- for hot water storage tanks, heat exchangers or swimming pools.

Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temp. element place	remote
Capillary tube length	2 m
Temperature element	liquid-filled
Colour	white
Temp. setpoint range	20 ... 70 °C
Temperature scale	2..7
Zero-position	no
Additional description	P-bands given in the literature of above valve bodies double when used with the 2080WL.

	Type
	T750120

Accessories

Theft-protection ring with Allan screws	TA2080A001
Theft-protection ring with double-punched screws	TA2080A002
Special screwdriver for double-punched screws	TA2080B002
Brass sensor pocket	TA2085A001
Sealing kit for installation without sensor pocket	TA2085B001
Special tool for assembly of thermostat	VA8210A001

Remote Thermostat (T9500)

Thermostatic radiator valve head with remote setting element. Concealed limiting and blocking of setpoint range. Suitable for

- all Honeywell thermostatic radiator valve bodies or valve inserts, and
- all Honeywell valve series M, and
- all thermostatic radiator valve bodies and compact radiator valve inserts with M30 x 1,5 connection and 11,5 mm closing dimension.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temp. element place	remote
Temperature element	liquid-filled
Colour	white to RAL 9010
Temp. setpoint range	8 ... 28 °C
Temperature scale	1..5
Zero-position	yes

Capillary tube length m	Type
2	**T950120W0**
5	**T950150W0**

Accessories

DA-Adapter from Danfoss snap connection RA to M30 x 1.5	**TA1010DA01**
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	**TA1010HZ01**

Electronic radiator controller

Less heating cost and more comfort with Roomtronic HR40 from Honeywell. The HR40 is an electronic radiator controller with a series of convenient functions. It heats any room as long as required by using intelligent control algorithm and time program.
The HR40 radiator controller can be fitted with ease to any conventional radiator valve. For most of the conventional valves an adapter is not required (Honeywell, Braukmann, MNG, Heimeier, Junkers, Landis & Gyr, Duogyr). The HR40 is adapting itself automatically.

Control functions	an individual time program allows to set your own heating time program and setpoints for each day of the week, self-monitoring functions offer protection against valve plock and frost; it helps you to save energy or tell you that the batteries need to be changed
Clock functions	the HR40 changes between 2 setpoint temperatures in terms of comfort temperature and economy temperature based on time program, the time program is free programmable to setup your individual daily program respective weekly program
Approvals	meets CE standard
Temp. setpoint range	8 ... 28 °C
Temperature element	NTC20k
Temp. element place	built in
Frost protection temperature	6 °C
Shut-off facility	yes
Stroke	3,2 mm
Batteries	included 2 x AA
Housing (HxWxD)	80 mm; 50 mm; 105 mm

Controller

Product description	Type
Electronic radiator controller	**HR40**

Controller including wall module

Product description	Type
Electronic radiator controller, existing of wall module with sensor and operation, and an actuator for the radiator valve, with 5 meter cable	**HR40F**
Electronic radiator controller, existing of wall module with sensor and operation, and an actuator for the radiator valve, with 10 meter cable	**HR10F**

Valve adapters for HR40

Vaillant	**HCA1VEL**
Oventrop	**HU01**
Herz HR	**HU02**
Danfoss RAV/RAVL/RA	**EVA1-DANFOSS**

Thera-EL (T850) Radiator thermostat with remote control

Thermostatic radiator valve head with additional heating element for remotely controlled temperature drop of up to 13K. Limiting and blocking of setpoint range with memory clip. Suitable for

- all Honeywell thermostatic radiator valve bodies or valve inserts, and
- all Honeywell valve series M, and
- all thermostatic radiator valve bodies and compact radiator valve inserts with M30 x 1,5 connection and 11,5 mm closing dimension.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Input voltage	8-24 V AC/DC, for temperature drop of 2-13K
Cable length	1,5 m
Body-head connection	M30 x 1,5
Temp. element place	internal
Temperature element	liquid-filled
Colour	white to RAL 9010
Temp. setpoint range	6 ... 28 °C
Temperature scale	1..5
Zero-position	no

	Type
	T850V24

Accessories

Theft-protection ring, white	TA6900A001
Torx-Screwdriver for theft-protection ring	TA6900B001
Decoring for connection nut, white (RAL9016); 10 pair, 20 pieces	TA1000A001
Decoring for connection nut, white (RAL9016); 1 pair, 2 pieces	TA1000A011
Decoring for connection nut, chrome; 10 pair, 20 pieces	TA1000A002
Decoring for connection nut, chrome; 1 pair, 2 pieces	TA1000A022
DA-Adapter from Danfoss snap connection RA to M30 x 1.5	TA1010DA01
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	TA1010HZ01
Special tool for assembly of thermostat	VA8210A001

Remote Thermostat-EL (T855)

Thermostatic radiator valve head with remote setting unit and additional heating element for remotely controlled temperature drop of up to 13K. Concealed limiting and blocking of setpoint range. With terminal screws for 0,5 mm cable diameter. Suitable for

- all Honeywell thermostatic radiator valve bodies or valve inserts, and
- all Honeywell valve series M, and
- all thermostatic radiator valve bodies and compact radiator valve inserts with M30 x 1,5 connection and 11,5 mm closing dimension.

For warm water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Input voltage	8-24 V AC/DC, for temperature drop of 2-13K
Body-head connection	M30 x 1,5
Temp. element place	remote
Capillary tube length	2 m
Temperature element	liquid-filled
Colour	white to RAL 9010
Temp. setpoint range	8 ... 28 °C
Temperature scale	1..5
Zero-position	yes

	Type
	T855V24

Accessories

DA-Adapter from Danfoss snap connection RA to M30 x 1.5	TA1010DA01
HZ-Adapter from M28 x 1.5 with 9.5 mm closing dimension to M30 x 1.5 with 11.5 mm closing dimension	TA1010HZ01

T100 M Radiator thermostat with red economy button

Thermostatic radiator valve head with internal liquid- or wax-filled sensing element. Equipped with red economy button. Limiting and blocking of setpoint possible (accessory). Suitable for

- all Honeywell thermostatic radiator valve bodies or valve inserts, and
- all thermostatic radiator valve bodies and compact radiator valve inserts with M30 x 1,5 connections and 11,5 mm closing dimension.

For use in warm-water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	EN 215 - for details see 'http://www.cert-trv.cenorm.be/'
Setpoint blocking	yes
Setpoint limiting	yes
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temp. element place	internal
Colour	white to RAL 9010
Temp. setpoint range	7 ... 27 °C
Temperature scale	1..6
Cover cap	Honeywell

T100 M

Capillary tube length m	Temperature element	Zero-position	Type
–	wax-filled	–	**T100M-264**
–	wax-filled	•	**T100M-364**
–	liquid-filled	–	**T100M-264F**
–	liquid-filled	•	**T100M-364F**

T100 MF with remote sensor

Capillary tube length m	Temperature element	Zero-position	Type
2	liquid-filled	•	**T100MF-3642**

Accessories

Range stops (pack of 10), for range limiting	**ZS100**

T100 MMIL Theft-protected radiator thermostat

Theft-protected thermostatic radiator valve head with internal wax-filled sensing element. Special fixing nut to prevent unscrewing. Suitable for

- all Honeywell thermostatic radiator valve bodies or valve inserts, and
- all thermostatic radiator valve bodies and compact radiator valve inserts with M30 x 1,5 connections and 11,5 mm closing dimension.

For use in warm-water heating systems

- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Approvals	EN215
Setpoint blocking	no
Setpoint limiting	no
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temp. element place	internal
Temperature element	wax-filled
Colour	white to RAL 9010
Zero-position	no
Cover cap	Honeywell
Additional description	Security lock can only be removed with special tool (WT100MIL) and is reusable.

Temp. setpoint range °C	Temperature scale	Type
20 ... 20	–	**T100MMIL-101**
16 ... 20	1..3	**T100MMIL-231**
16 ... 22	1..4	**T100MMIL-241**
16 ... 24	1..5	**T100MMIL-251**

Accessories

Special tool to remove T100 MMIL thermostats	**WT100MIL**

T100 MZ Radiator thermostat with remote setting

Thermostatic radiator valve head with remote liquid-filled sensing element and setting unit. Suitable for
- all Honeywell thermostatic radiator valve bodies or valve inserts, and
- all thermostatic radiator valve bodies and compact radiator valve inserts with M30 x 1,5 connections and 11,5 mm closing dimension.

For warm water heating systems
- on thermostatic radiator valve bodies, or
- on compact radiator valve inserts.

Setpoint blocking	no
Setpoint limiting	no
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temp. element place	remote
Temperature element	liquid-filled
Colour	white to RAL 9010
Temp. setpoint range	16 ... 24 °C
Temperature scale	1..5
Zero-position	no
Cover cap	Honeywell

Capillary tube length m	Type
2	**T100MZ-2512**
5	**T100MZ-2515**

T100 R / T100 RS Thermostats with remote sensor for hot water units

Thermostatic radiator valve head for water with remote sensing element. Suitable for
- all Honeywell thermostatic radiator valve bodies, and
- all thermostatic radiator valve bodies with M30 x 1,5 connection and 11,5 mm closing dimension.

For hot water storage tanks and heat exchangers.

Setpoint blocking	no
Setpoint limiting	no
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temp. element place	remote
Capillary tube length	2 m
Temperature element	liquid-filled
Colour	white to RAL 9010
Temperature scale	1..12

T100 R with immersion pocket for sensor

Temp. setpoint range °C	Type
10 ... 50	**T100R-AA**
30 ... 70	**T100R-AB**

T100 RS with screw-in sensor R 1/2"

Temp. setpoint range °C	Type
10 ... 50	**T100RS-DA**
30 ... 70	**T100RS-DB**

T100V/T100VM Heavy-Duty Radiator Thermostat

Thermostats of this type have a theft-resistant, heavy duty design and were specially designed for use in public buildings such as offices, schools, barracks or hospitals.

- A Radiator Thermostat is installed onto a Thermostatic Radiator Valve Body (TRV body). The combination of both, the Thermostatic Radiator Valve (TRV), controls the room temperature by adjusting the flow of hot water through a radiator. TRVs are installed in water-based heating systems on the supply or, less commonly on the return connection of radiators.
- Honeywell radiator thermostats with Honeywell (HW) M30x1.5 connection are suitable for all TRV body and radiator inserts with M30x1.5 connection and 11.5mm closing dimension.

Thermostat restists extreme loads

- Thermostat can only be removed with special tool
- Setting with setpoint numerics
- Adjustment of the fixid setpoint with a setting key (T100V-101 and T100VM-101 only)
- Lock disk against unauthorized adjustment (T100V-101 and T100VM-101 only)
- Reliable wax-filled sensing element

Approvals	EN215
Setpoint blocking	no
Setpoint limiting	no
Closing dimension	11,5 mm
Body-head connection	M30 x 1,5
Temp. element place	internal
Temperature element	wax-filled
Colour	white
Zero-position	no
Additional description	Thermostat can only be removed with special tool (WT100V) and is reusable.

Temperature range fixed with lock disk

Temp. setpoint range °C	Cover cap	Type
6 ... 26	H-logo	**T100V-101**
6 ... 20	H-logo	**T100VM-101**

Temperature range variable

Temp. setpoint range °C	Cover cap	Type
6 ... 26	none	**T100V-241**
6 ... 20	none	**T100VM-241**

Accessories

Special tool to remove thermostats	**WT100V**
5 pcs setting key	**ZV100**
5 pcs screw lock, is destroyed and has to be replaced when T100V is removed with tool WT100V	**AS100V**
5 pcs lock disk	**FS100V**

Thera-RTL (T6102) Return temperature limiter

Return-temperature limiting thermostat with internal element. Good readability from every angle. Limiting and blocking of setpoint range without tools.
The Thera-RTL limits the return flow temperature of radiators or, in case of combined radiator/ underfloor heating systems, the return flow temperature of underfloor heating loops.

Setpoint blocking	yes
Setpoint limiting	yes
Body-head connection	M30 x 1,5
Closing dimension	11,5 mm
Temp. element place	internal
Temperature element	wax-filled
Colour	white to RAL 9010
Temp. setpoint range	20 ... 50 °C

	Type
	T6102

Accessories

Cover ring, white	TA1000A001
Trim ring, white	TA1000B001
Theft-protection ring, white	TA6900A001
Special screwdriver for theft-protection ring	TA6900B001

V2000DBB15	V2000DK315	V2000DK415	V2000DK515	V2000DUB15	V2000EBB15	V2000EK315	V2000EK415	V2000EK515	V2000EUB15	V2000HBB15	V2000IBB15	
•	•	•	•	•	•	•	•	•	•	•	•	T6102

Underfloor heating control sets for underwall installation (T6101, T6102)

Underfloor sets for the control of underfloor heating loops by return temperature or ambient temperature. Set 1 and 2 also for combined radiator/underfloor heating loops.
For underfloor heating loops or combined radiator/underfloor heating loops.

Setpoint blocking	yes
Setpoint limiting	yes
Medium type	water or water-glycol mixture according to VDI 2035
Max. operating pressure	10 bar
Max. delta P	1 bar
Colour	white to RAL 9010
Additional description	Suitable connections see 'Connections for Radiator Valves'.

Product description	Temp. setpoint range °C	Kvs value	Type
Set 1 - Return temperature limiter with visible thermostat	20 ... 50	1	T6102RUB15
Set 2 - Return temperature limiter with concealed thermostat	20 ... 50	1,7	T6102AUB15
Set 3 - Room Control-Set	6 ... 28	1	T6101RUB15

Thera Design Edition - TRV Body

The new Honeywell Design Line is particularly styled for use with design radiators. With their high class appearance they perfectly fit to all kinds of ambients.

- Thermostatic radiator valve bodies (TRV bodies) are fitted on the supply or return of radiators or heat exchangers. Together with a radiator thermostat, for example the Thera-4, they control the room temperature by regulating the flow of hot water into the radiator. The temperature of different rooms is controlled individually and energy is saved.
- TRV bodies of this type have quiet operation and are fitted to the supply or return of radiators on two-pipe systems with medium flow rates.

Water or water-glycol mixture, quality to VDI 2035

Materials	Valve housing made of brass with chrome or white (RAL 9016) surface; Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindle; Protection cap made of plastic; Union-nut and tailpiece made of chrome plated brass with EPDM O-ring
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Pre-setting	yes
DN size	15 mm
Heat exchanger connection	1/2 inch

Design white

Body pattern	Type
angle	**V2081ESL15**
straight	**V2081DSL15**
double angle right	**V2081RSL15**
double angle left	**V2081LSL15**

Design chrome

Body pattern	Type
angle	**V2082ESL15**
straight	**V2082DSL15**
double angle right	**V2082RSL15**
double angle left	**V2082LSL15**

Service parts

Replacement valve insert	**VS1200SLGB01**
Service tool to replace valve insert	**VA8200A001**

Valve accessories

Manual design handwheel, white (RAL9016)	VA2200C001
Manual design handwheel, chrome	VA2200C002
Rosette white (RAL9016) for wall covering; 40 x 12mm	VA2201D012
Rosette white (RAL9016) for wall covering; 40 x 14mm	VA2201D014
Rosette white (RAL9016) for wall covering; 40 x 15mm	VA2201D015
Rosette white (RAL9016) for wall covering; 40 x 16mm	VA2201D016
Rosette white (RAL9016) for wall covering; 40 x 18mm	VA2201D018
Rosette white (RAL9016) for wall covering; 40 x 20mm	VA2201D020
Rosette chrome for wall covering; 40 x 12mm	VA2201E012
Rosette chrome for wall covering; 40 x 14mm	VA2201E014
Rosette chrome for wall covering; 40 x 15mm	VA2201E015
Rosette chrome for wall covering; 40 x 16mm	VA2201E016
Rosette chrome for wall covering; 40 x 18mm	VA2201E018
Rosette chrome for wall covering; 40 x 20mm	VA2201E020

Accessories - Pipe connections

Connection for copper pipe (1 pcs.); 24 x 19 x 12mm	VA720C1200
Connection for copper pipe (1 pcs.); 24 x 19 x 14mm	VA720C1400
Connection for copper pipe (1 pcs.); 24 x 19 x 15mm	VA720C1500
Connection for copper pipe (1 pcs.); 24 x 19 x 16mm	VA720C1600
Connection for PE-X pipe (1 pcs.); 24 x 19 x 12 x 1,1mm	VA721C1211
Connection for PE-X pipe (1 pcs.); 24 x 19 x 14 x 2mm	VA721C1420
Connection for PE-X pipe (1 pcs.); 24 x 19 x 16 x 1,5mm	VA721C1615
Connection for PE-X pipe (1 pcs.); 24 x 19 x 16 x 2mm	VA721C1620
Connection for PE-X pipe (1 pcs.); 24 x 19 x 18 x 2mm	VA721C1820
Connection for multilayer pipe (1 pcs.); 24 x 19 x 14 x 2mm	VA722C1420
Connection for multilayer pipe (1 pcs.); 24 x 19 x 16 x 2mm	VA722C1620
Connection for multilayer pipe (1 pcs.); 24 x 19 x 18 x 2mm	VA722C1820
Connection for multilayer pipe (1 pcs.); 24 x 19 x 20 x 2mm	VA722C2020

BB type TRV Body (V2000BB)

Low-noise thermostatic radiator valve body with broad band (BB) type valve cartridge. Exchange of valve insert possible when system is under pressure and operating. AT-Concept.
For water-based heating systems.

Materials	Valve housing made of matt nickel-plated red bronze or hot-forged brass. Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindel. Protection cap made of black plastic. Union-nut and tailpiece made of nickel-plated brass.
Approvals	EN215 - for details see 'http://www.cert-trv.cenorm.be/'.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	1 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Colour of protection cap	black
Kvs value	0,62
Port connection type	internal threads
Additional description	Suitable connections see 'Connections for Radiator Valves'.

Thermostatic Radiator Valve Bodies

BB type TRV bodies to EN215 (D)

Body pattern	Place in installation	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
angle to DIN	supply	10	3/8	3/8	**V2000EBB10**
angle to DIN	supply	15	1/2	1/2	**V2000EBB15**
angle to DIN	supply	20	3/4	3/4	**V2000EBB20**
straight to DIN	supply	10	3/8	3/8	**V2000DBB10**
straight to DIN	supply	15	1/2	1/2	**V2000DBB15**
straight to DIN	supply	20	3/4	3/4	**V2000DBB20**

BB type TRV bodies to EN215 (F)

Body pattern	Place in installation	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
angle to NF	supply	10	3/8	3/8	**V2020EBB10**
angle to NF	supply	15	1/2	1/2	**V2020EBB15**
angle to NF	supply	20	3/4	3/4	**V2020EBB20**
straight to NF	supply	10	3/8	3/8	**V2020DBB10**
straight to NF	supply	15	1/2	1/2	**V2020DBB15**
straight to NF	supply	20	3/4	3/4	**V2020DBB20**

Other BB type TRV bodies

Body pattern	Place in installation	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
horizontal angle	supply	10	3/8	3/8	**V2000ABB10**
horizontal angle	supply	15	1/2	1/2	**V2000ABB15**
double angle left	supply	10	3/8	1/2	**V2000LBB10**
double angle left	supply	15	1/2	1/2	**V2000LBB15**
double angle right	supply	10	3/8	1/2	**V2000RBB10**
double angle right	supply	15	1/2	1/2	**V2000RBB15**
swan neck	supply	15	1/2	1/2	**V2000BBB15**

BB type TRV bodies for the return

Body pattern	Place in installation	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
horizontal angle	return	10	3/8	3/8	**V2000HBB10**
horizontal angle	return	15	1/2	1/2	**V2000HBB15**
straight	return	10	3/8	3/8	**V2000IBB10**
straight	return	15	1/2	1/2	**V2000IBB15**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**
Service tool for exchange of valve insert during operation	**VA8200A001**
Special tool for thermostats and TRV bodies	**VA8210A001**

Service parts

BB type valve insert	**VS1200BB01**
O-ring insert for BB type valve inserts till 1998	**VS2200A001**

KV type TRV Body (V2000Kx)

Low-noise thermostatic radiator valve body with flow specialised (KV) type valve cartridge. Exchange of valve insert possible when system is under pressure and operating. AT-Concept.
For water-based two-pipe heating systems.

Materials	Valve housing made of nickel-plated red bronze or hot-forged brass. Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindel. Protection cap made of red, blue or green plastic. Union-nut and tailpiece made of brass, union-nut nickel-plated, tailpiece optionally nickel-plated.
Approvals	EN215 - for details see 'http://www.cert-trv.cenorm.be/'.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	1 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Colour of protection cap	red (K3), blue (K4) or green (K5)
Additional description	Suitable connections see 'Connections for Radiator Valves'.

KV type TRV bodies to EN215 (D)

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
angle to DIN	supply	10	0,14	3/8	internal threads	3/8	**V2000EK310**
angle to DIN	supply	10	0,36	3/8	internal threads	3/8	**V2000EK410**
angle to DIN	supply	10	0,8	3/8	internal threads	3/8	**V2000EK510**
angle to DIN	supply	15	0,14	1/2	internal threads	1/2	**V2000EK315**
angle to DIN	supply	15	0,36	1/2	internal threads	1/2	**V2000EK415**
angle to DIN	supply	15	0,8	1/2	internal threads	1/2	**V2000EK515**
angle to DIN	supply	20	0,8	3/4	internal threads	3/4	**V2000EK520**
straight to DIN	supply	10	0,14	3/8	internal threads	3/8	**V2000DK310**
straight to DIN	supply	10	0,36	3/8	internal threads	3/8	**V2000DK410**
straight to DIN	supply	10	0,8	3/8	internal threads	3/8	**V2000DK510**
straight to DIN	supply	15	0,14	1/2	internal threads	1/2	**V2000DK315**
straight to DIN	supply	15	0,36	1/2	internal threads	1/2	**V2000DK415**
straight to DIN	supply	15	0,8	1/2	internal threads	1/2	**V2000DK515**
straight to DIN	supply	20	0,8	3/4	internal threads	3/4	**V2000DK520**

KV type TRV bodies to EN215 (F)

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
angle to NF	supply	10	0,36	3/8	internal threads	3/8	**V2020EK410**
angle to NF	supply	15	0,36	1/2	internal threads	1/2	**V2020EK415**
angle to NF	supply	15	0,8	1/2	internal threads	1/2	**V2020EK515**
straight to NF	supply	10	0,36	3/8	internal threads	3/8	**V2020DK410**
straight to NF	supply	15	0,36	1/2	internal threads	1/2	**V2020DK415**
straight to NF	supply	15	0,8	1/2	internal threads	1/2	**V2020DK515**

Thermostatic Radiator Valve Bodies

Other KV type TRV bodies

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
horizontal angle	supply	10	0,36	3/8	internal threads	3/8	**V2000AK410**
horizontal angle	supply	10	0,8	3/8	internal threads	3/8	**V2000AK510**
horizontal angle	supply	15	0,36	1/2	internal threads	1/2	**V2000AK415**
horizontal angle	supply	15	0,8	1/2	internal threads	1/2	**V2000AK515**
double angle left	supply	10	0,36	3/8	internal threads	1/2	**V2000LK410**
double angle left	supply	15	0,36	1/2	internal threads	1/2	**V2000LK415**
double angle right	supply	10	0,36	3/8	internal threads	1/2	**V2000RK410**
double angle right	supply	15	0,36	1/2	internal threads	1/2	**V2000RK415**
swan neck	supply	15	0,36	1/2	internal threads	1/2	**V2000BK415**
swan neck	supply	15	0,8	1/2	internal threads	1/2	**V2000BK515**

KV type TRV bodies for the supply or return

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
angle	supply or return	15	0,8	3/4	external threads	3/4	**V2060EK515**
straight	supply or return	15	0,8	3/4	external threads	3/4	**V2060DK515**
double angle left	supply or return	15	0,8	3/4	external threads	3/4	**V2060LK515**
double angle right	supply or return	15	0,8	3/4	external threads	3/4	**V2060RK515**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**
Service tool for exchange of valve insert during operation	**VA8200A001**
Special tool for thermostats and TRV bodies	**VA8210A001**

Service parts

KV3 type valve insert	**VS1200K301**
KV4 type valve insert	**VS1200K401**
KV5 type valve insert	**VS1200K501**
Valve insert for all KV type valve inserts till 1998	**VS2200A001**

UBG type TRV Body (V2000UB)

Low-noise thermostatic radiator valve body with universal band (UBG) type valve cartridge. Exchange of valve insert possible when system is under pressure and operating. AT-Concept.
For water-based heating systems.

Materials	Valve housing made of nickel-plated red bronze or hot-forged brass. Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindel. Protection cap made of white plastic. Union-nut and tailpiece made of nickel-plated brass.
Approvals	EN215 - for details see 'http://www.cert-trv.cenorm.be/'.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	1 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Colour of protection cap	white
Additional description	Suitable connections 'Connections for Radiator Valves'.

UBG type TRV bodies to EN215 (D)

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
angle to DIN	supply	10	1,7	3/8	internal threads	3/8	**V2000EUB10**
angle to DIN	supply	15	1,85	1/2	internal threads	1/2	**V2000EUB15**
angle to DIN	supply	20	1,95	3/4	internal threads	3/4	**V2000EUB20**
angle to DIN	supply	25	2,2	1	internal threads	1	**V2000EUB25**
straight to DIN	supply	10	1,7	3/8	internal threads	3/8	**V2000DUB10**
straight to DIN	supply	15	1,85	1/2	internal threads	1/2	**V2000DUB15**
straight to DIN	supply	20	1,95	3/4	internal threads	3/4	**V2000DUB20**
straight to DIN	supply	25	2,2	1	internal threads	1	**V2000DUB25**

UBG type TRV body with external threads

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
straight	supply or return	15	1,6	3/4	external threads	3/4	**V2060DUB15**

UBG type TRV bodies to EN215 (F)

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
angle to NF	supply	10	1,8	3/8	internal threads	3/8	**V2020EUB10**
angle to NF	supply	15	1,8	1/2	internal threads	1/2	**V2020EUB15**
angle to NF	supply	20	1,95	3/4	internal threads	3/4	**V2020EUB20**
straight to NF	supply	10	0,8	3/8	internal threads	3/8	**V2020DUB10**
straight to NF	supply	15	1,1	1/2	internal threads	1/2	**V2020DUB15**
straight to NF	supply	20	1,95	3/4	internal threads	3/4	**V2020DUB20**

Thermostatic Radiator Valve Bodies

Other UBG type TRV bodies

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
horizontal angle	supply	10	1,2	3/8	internal threads	3/8	**V2000AUB10**
horizontal angle	supply	15	1,2	1/2	internal threads	1/2	**V2000AUB15**
double angle left	supply	10	1	3/8	internal threads	1/2	**V2000LUB10**
double angle left	supply	15	1	1/2	internal threads	1/2	**V2000LUB15**
double angle right	supply	10	1	3/8	internal threads	1/2	**V2000RUB10**
double angle right	supply	15	1	1/2	internal threads	1/2	**V2000RUB15**
swan neck	supply	15	1,6	1/2	internal threads	1/2	**V2000BUB15**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**
Service tool for exchange of valve insert during operation	**VA8200A001**
Special tool for thermostats and TRV bodies	**VA8210A001**

Service parts

UBG type valve insert	**VS1200UB01**
O-ring insert for BB, KV and UBG type valve inserts until 1998	**VS2200A001**

GB type TRV Body (V2047)

Reverse-flow thermostatic radiator valve body with universal band (UBG-R) type valve cartridge. Reverse flow feature allows any kind of installation: supply or return, regular or opposite flow direction. Exchange of valve insert possible when system is under pressure and operating. AT-Concept. For water-based heating systems.

Materials	Valve body made of matt nickel-plated red bronze Rg5 to DIN 1705, valve insert made of brass with EPDM O-rings and seat sealing, spindle made of stainless steel.
Approvals	EN215 - for details see 'http://www.cert-trv.cenorm.be'.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	1 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Colour of protection cap	white
Body pattern	angle
Place in installation	supply or return
DN size	15 mm
Kvs value	2,1
Connection diameter	1/2 inch
Port connection type	external threads
Threads type	BSP
Heat exchanger connection	1/2 inch
Additional description	• kvs-value 1,9 in reverse flow mode. • Valve is supplied with compression fitting for copper and precision steel pipe.

GB type angle pattern TRV bodies

Connection size mm	Type
8	**V2047EUB08**
10	**V2047EUB10**
15	**V2047EUB15**

Accessories

Pre-settable handwheel	**VA2200D001**
Heavy-duty protection cap	**VA2202A015**
Sealing ring for HD cap	**VA5090A015**
Service tool for exchange of valve insert during operation	**VA8200A001**

Spare parts

UBG-R type reverse flow valve insert	**VS1200UB02**

SL type TRV Body (V2000SL)

Low-noise thermostatic radiator valve body with stroke limited (SL) type valve cartridge. Exchange of valve insert possible when system is under pressure and operating. AT-Concept.
For water-based heating systems.

Materials	Valve housing made of nickel-plated red bronze or hot-forged brass. Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindel. Protection cap made of white plastic. Union-nut and tailpiece made of nickel-plated brass.
Approvals	EN215 - for details see 'http://www.cert-trv/cenorm.be'.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	1 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Pre-settable	by stroke limitation
Colour of protection cap	white
Place in installation	supply
Port connection type	internal and external threads
Additional description	Suitable connections see 'Connections for Radiator Valves'.

SL type TRV bodies to EN215 (D)

Body pattern	DN size mm	Kvs value	Connection diameter inch	Heat exchanger connection inch	Type
angle to DIN	15	1,85	1/2	1/2	**V2000ESL15**
angle to DIN	20	1,95	3/4	3/4	**V2000ESL20**
straight to DIN	15	1,85	1/2	1/2	**V2000DSL15**
straight to DIN	20	1,95	3/4	3/4	**V2000DSL20**

SL type TRV bodies to EN215 (F)

Body pattern	DN size mm	Kvs value	Connection diameter inch	Heat exchanger connection inch	Type
angle to NF	10	1,7	3/8	3/8	**V2020ESL10**
angle to NF	15	1,85	1/2	1/2	**V2020ESL15**
angle to NF	20	1,95	3/4	3/4	**V2020ESL20**
straight to NF	10	1,7	3/8	3/8	**V2020DSL10**
straight to NF	15	1,85	1/2	1/2	**V2020DSL15**
straight to NF	20	1,95	3/4	3/4	**V2020DSL20**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**
Service tool for exchange of valve insert during operation	**VA8200A001**
Special tool for thermostats and TRV bodies	**VA8210A001**

Service parts

SL type valve insert	**VS1200SL01**

VS type pre-settable TRV Body with Flush-Position (V2000VS)

Low-noise pre-settable thermostatic radiator valve body. Exchange of valve insert possible when system is under pressure and operating. AT-Concept. Flush function when fully open.
For water-based heating systems.

Materials	Valve body made of nickel-plated red bronze or hot-forged brass. Valve insert made of brass with EPDM O-rings and soft seals, stainless steel spindle and plastic presetting dial. Protection cap made of beige plastic. Union-nut and tailpiece made of nickel-plated brass.
Approvals	EN215
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	2 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Pre-settable	yes
Colour of protection cap	beige
Place in installation	supply
Kvs value	0,72
Port connection type	internal threads
Additional description	Suitable connections 'Connections for Radiator Valves'.

VS type TRV bodies to EN215 (D)

Body pattern	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
angle to DIN	10	3/8	3/8	**V2000EVS10**
angle to DIN	15	1/2	1/2	**V2000EVS15**
angle to DIN	20	3/4	3/4	**V2000EVS20**
straight to DIN	10	3/8	3/8	**V2000DVS10**
straight to DIN	15	1/2	1/2	**V2000DVS15**
straight to DIN	20	3/4	3/4	**V2000DVS20**

VS type TRV bodies to EN215 (F)

Body pattern	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
angle to NF	10	3/8	3/8	**V2020EVS10**
angle to NF	15	1/2	1/2	**V2020EVS15**
angle to NF	20	3/4	3/4	**V2020EVS20**
straight to NF	10	3/8	3/8	**V2020DVS10**
straight to NF	15	1/2	1/2	**V2020DVS15**
straight to NF	20	3/4	3/4	**V2020DVS20**

Thermostatic Radiator Valve Bodies

Other VS type TRV bodies

Body pattern	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
horizontal angle	10	3/8	3/8	**V2000AVS10**
horizontal angle	15	1/2	1/2	**V2000AVS15**
double angle left	10	3/8	1/2	**V2000LVS10**
double angle left	15	1/2	1/2	**V2000LVS15**
double angle right	10	3/8	1/2	**V2000RVS10**
double angle right	15	1/2	1/2	**V2000RVS15**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**
Service tool for exchange of valve insert during operation	**VA8200A001**
Precision pre-setting key for VS and FS type valve bodies	**VA8201FV03**
Pre-setting key for VS, V, FS and FV type valve bodies	**VA8201FV02**

Service parts

VS type valve insert with flush position (AT-Concept)	**VS1200VS01**

FS type finely pre-settable TRV Body with Flush-Position (V2000FS)

Low-noise pre-settable thermostatic radiator valve body for very low flow rates. Exchange of valve insert possible when system is under pressure and operating. AT-Concept. Flush function when fully open.
For water-based heating systems.

Materials	Valve body made of nickel-plated red bronze or hot-forged brass. Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindel, brown plastic pre-setting ring. Protection cap made of brown plastic. Union-nut and tailpiece made of nickel-plated brass.
Approvals	EN215
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	2 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Pre-settable	yes
Colour of protection cap	brown
Place in installation	supply
Kvs value	0,51
Port connection type	internal threads
Additional description	Suitable connections see 'Connections for Radiator Valves'.

FS type TRV bodies to EN215 (D)

Body pattern	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
angle to DIN	10	3/8	3/8	**V2000EFS10**
angle to DIN	15	1/2	1/2	**V2000EFS15**
angle to DIN	20	3/4	3/4	**V2000EFS20**
straight to DIN	10	3/8	3/8	**V2000DFS10**
straight to DIN	15	1/2	1/2	**V2000DFS15**
straight to DIN	20	3/4	3/4	**V2000DFS20**

FS type TRV bodies to EN215 (F)

Body pattern	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
angle to NF	10	3/8	3/8	**V2020EFS10**
angle to NF	15	1/2	1/2	**V2020EFS15**
straight to NF	10	3/8	3/8	**V2020DFS10**
straight to NF	15	1/2	1/2	**V2020DFS15**

Thermostatic Radiator Valve Bodies

Other FS type TRV bodies

Body pattern	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
horizontal angle	10	3/8	3/8	**V2000AFS10**
horizontal angle	15	1/2	1/2	**V2000AFS15**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Service tool for exchange of valve insert during operation	**VA8200A001**
Precision pre-setting key for VS and FS type valve bodies	**VA8201FV03**
Pre-setting key for VS, V, FS and FV type valve bodies	**VA8201FV02**

Service parts

FS type valve insert with flush position (AT-Concept)	**VS1200FS01**

FV type TRV Body (V2000FV)

Low-noise pre-settable thermostatic radiator valve body for very low flow rates. Exchange of valve insert possible when system is under pressure and operating. AT-Concept.
For water-based heating systems.

Materials	Valve body made of nickel-plated red bronze. Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindel. Protection cap made of brown plastic. Union-nut and tailpiece made of nickel-plated brass
Approvals	EN 215 - for details see 'http://www.cert-trv.cenorm.be/'.
Media	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	2 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Pre-settable	yes
Colour of protection cap	brown
Place in installation	supply
Kvs value	0,35
Port connection type	internal and external threads
Additional description	Suitable connections see 'Connections for TRV Bodies'.

FV type TRV bodies to EN215 (D)

Body pattern	DN size mm	Connection diameter inch	Heat exchanger connection inch	Type
angle to DIN	10	3/8	3/8	**V2000EFV10**
angle to DIN	15	1/2	1/2	**V2000EFV15**
angle to DIN	20	3/4	3/4	**V2000EFV20**
straight to DIN	10	3/8	3/8	**V2000DFV10**
straight to DIN	15	1/2	1/2	**V2000DFV15**
straight to DIN	20	3/4	3/4	**V2000DFV20**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Service tool for exchange of valve insert during operation	**VA8200A001**
Pre-setting key for V and FV type valve bodies	**VA8201FV01**
Precision pre-setting key for V, VS, FS and FV type valve bodies	**VA8201FV02**
Special tool for thermostats and TRV bodies	**VA8210A001**

Service parts

FV type valve insert	**VS1200FV01**
O-ring insert for V and FV type valve inserts	**VS2200B001**

SC type TRV Body (V2000SC)

Low-noise pre-settable thermostatic radiator valve body with self-closing (SC) type valve cartridge - valve closes when head is taken off. Exchange of valve insert possible when system is under pressure and operating. AT-Concept.
For water-based heating systems.

Materials	Valve housing made of nickel-plated red bronze or hot-forged brass. Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindel. Protection cap made of grey plastic. Union-nut and tailpiece made of nickel-plated brass.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	1 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Pre-settable	yes
Colour of protection cap	grey
Place in installation	supply
Kvs value	0,4
Port connection type	internal threads
Additional description	Suitable connections see 'Connections for Radiator Valves'.

SC type TRV bodies to EN215 (D)

Body pattern	DN size (mm)	Connection diameter (inch)	Heat exchanger connection (inch)	Type
angle to DIN	10	3/8	3/8	**V2000ESC10**
angle to DIN	15	1/2	1/2	**V2000ESC15**
angle to DIN	20	3/4	3/4	**V2000ESC20**
straight to DIN	10	3/8	3/8	**V2000DSC10**
straight to DIN	15	1/2	1/2	**V2000DSC15**
straight to DIN	20	3/4	3/4	**V2000DSC20**

Other SC type TRV bodies

Body pattern	DN size (mm)	Connection diameter (inch)	Heat exchanger connection (inch)	Type
horizontal angle	15	1/2	1/2	**V2000ASC15**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**
Service tool for exchange of valve insert during operation	**VA8200A001**
Pre-setting tool for SC type valve bodies	**VA8201SC01**
Pre-setting tool for SC type valve bodies in connection with Verafix-MES	**VA8201SC02**
Filling cap for SC type valve bodies	**VA8204A001**
Special tool for thermostats and TRV bodies	**VA8210A001**

Service parts

SC type valve insert	**VS1200SC01**
O-ring insert for SC type valve inserts	**VS2200C001**

H type TRV Body (V2050)

Thermostatic radiator valve body with hi-flow (H) type valve cartridge. Exchange of valve insert possible when system is under pressure and operating.
For water-based heating systems.

Materials	Valve housing made of red bronze. Valve insert made of brass with EPDM O-rings and seat sealing. Spindle made of stainless steel. Protection cap made of white plastic. Union-nut and tailpiece made of brass.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	0,3 bar
Closing dimension	11,5 mm
Stroke	2,9 mm
Body-head connection	M30 x 1,5
Colour of protection cap	white
Port connection type	internal threads
Additional description	Suitable connections see 'Connections for Radiator Valves'.

H type angle and straight TRV bodies

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Heat exchanger connection inch	Type
angle	supply	15	5	1/2	1/2	**V2050EH015**
angle	supply	20	7	3/4	3/4	**V2050EH020**
angle	supply	25	7	1	1	**V2050EH025**
straight	supply	15	3,5	1/2	1/2	**V2050DH015**
straight	supply	20	5	3/4	3/4	**V2050DH020**
straight	supply	25	5	1	1	**V2050DH025**

Thermostatic Radiator Valve Bodies

H type horizontal angle TRV body

Body pattern	Place in installation	DN size mm	Kvs value	Connection diameter inch	Heat exchanger connection inch	**Type**
horizontal angle	supply or return	15	5	1/2	1/2	**V2050HH015**
horizontal angle	supply or return	20	5	3/4	3/4	**V2050HH020**

Accessories

Pre-settable handwheel	**VA2200D001**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**
Service tool for exchange of valve insert during operation	**VA8200A001**
Special tool for TRV heads and bodies	**VA8210A001**

Service parts

H type valve insert	**VS1200H020**
O-Ring insert for H type valves O-ring insert for H type valves	**VS2200A001**

Thera Design Edition - Lockshield Valve

The new Honeywell Design Line is particularly styled for use with design radiators. With their high class appearance they perfectly fit to all kinds of ambients.

- Verafix Design lockshield valves are used to connect radiators and other heat exchangers to heating circuits of hydronic heating systems. They are installed at the return port of the radiator and offer a shutoff function to separate the radiator from the heating circuit, for example for renovating.

For water-based heating systems.

Materials	Valve housing made of brass with chrome or white (RAL 9016) surface; Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindle; Protection cap made of brass with chrome or white (RAL 9016) surface; Union-nut and tailpiece made of chrome plated brass with EPDM O-ring
Shut-off facility	yes
Pre-setting	yes
Draining/filling support	yes
Place in installation	return
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
DN size	15 mm
Port connection type	external threads
Heat exchanger connection	1/2 inch

Design white

Body pattern	Type
angle	**V2481E0015**
straight	**V2481D0015**
double angle right	**V2481R0015**
double angle left	**V2481L0015**

Design chrome

Body pattern	Type
angle	V2482E0015
straight	V2482D0015
double angle right	V2482R0015
double angle left	V2482L0015

Valve Accessories

Rosette white (RAL9016) for wall covering; 40 x 12mm	VA2201D012
Rosette white (RAL9016) for wall covering; 40 x 14mm	VA2201D014
Rosette white (RAL9016) for wall covering; 40 x 15mm	VA2201D015
Rosette white (RAL9016) for wall covering; 40 x 16mm	VA2201D016
Rosette white (RAL9016) for wall covering; 40 x 18mm	VA2201D018
Rosette white (RAL9016) for wall covering; 40 x 20mm	VA2201D020
Rosette chrome for wall covering; 40 x 12mm	VA2201E012
Rosette chrome for wall covering; 40 x 14mm	VA2201E014
Rosette chrome for wall covering; 40 x 15mm	VA2201E015
Rosette chrome for wall covering; 40 x 16mm	VA2201E016
Rosette chrome for wall covering; 40 x 18mm	VA2201E018
Rosette chrome for wall covering; 40 x 20mm	VA2201E020

Accessories - Pipe Connections

Connection for copper pipe (1 pcs.); 24 x 19 x 12mm	VA720C1200
Connection for copper pipe (1 pcs.); 24 x 19 x 14mm	VA720C1400
Connection for copper pipe (1 pcs.); 24 x 19 x 15mm	VA720C1500
Connection for copper pipe (1 pcs.); 24 x 19 x 16mm	VA720C1600
Connection for PE-X pipe (1 pcs.); 24 x 19 x 12 x 1,1mm	VA721C1211
Connection for PE-X pipe (1 pcs.); 24 x 19 x 14 x 2mm	VA721C1420
Connection for PE-X pipe (1 pcs.); 24 x 19 x 16 x 1,5mm	VA721C1615
Connection for PE-X pipe (1 pcs.); 24 x 19 x 16 x 2mm	VA721C1620
Connection for PE-X pipe (1 pcs.); 24 x 19 x 18 x 2mm	VA721C1820
Connection for multilayer pipe (1 pcs.); 24 x 19 x 14 x 2mm	VA722C1420
Connection for multilayer pipe (1 pcs.); 24 x 19 x 16 x 2mm	VA722C1620
Connection for multilayer pipe (1 pcs.); 24 x 19 x 18 x 2mm	VA722C1820
Connection for multilayer pipe (1 pcs.); 24 x 19 x 20 x 2mm	VA722C2020

Verafix (V2400) radiator lockshield valve

Pre-settable radiator lockshield valve for the return with shut-off facility. Optional flow direction. Supports draining and filling. Reproducible pre-setting is not affected by draining process. O-ring spindle seals
For water-based heating systems.

Materials	Valve body made of nickel-plated red bronze. Valve insert made of brass with EPDM O-rings. Tailpiece, protection cap and union-nut made of nickelplated brass.
Shut-off facility	yes
Pre-setting	yes
Draining/filling support	yes
Measuring support	no
Place in installation	return
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Additional description	• Installation in supply also possible, draining/filling function isn't supported! • Suitable connections see 'Connections for Radiator Valves'.

Verafix with nickel-plated tailpiece

Body pattern	DN size mm	Kvs value	Connection diameter inch	Port connection type	Type
angle to DIN	10	1,7	3/8	internal threads	**V2400E0010**
angle to DIN	15	1,7	1/2	internal threads	**V2400E0015**
angle to DIN	20	1,7	3/4	internal threads	**V2400E0020**
straight to DIN	10	1,4	3/8	internal threads	**V2400D0010**
straight to DIN	15	1,45	1/2	internal threads	**V2400D0015**
straight to DIN	20	1,5	3/4	internal threads	**V2400D0020**

Verafix with external threads

Body pattern	DN size mm	Kvs value	Connection diameter inch	Port connection type	Type
straight	15	1,45	3/4	external threads	**V2406D0015**

Accessories

Draining adapter for all sizes	**VA3300A001**
Special Verafix tool	**VA8300A001**

Service parts

Cover cap for all sizes	**VS3301A001**
Sealing ring for cover cap	**VS3302A001**
Valve insert	**VS1300VF02**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**

Verafix-E (V2420) radiator lockshield valve

Pre-settable radiator lockshield valve for the return with shut-off facility. Optional flow direction. Supports draining and filling. O-ring spindle seals.
For water-based heating systems.

Materials	Valve housing made of nickel-plated red bronze. Valve insert made of brass with EPDM seals. Tailpiece, protection cap and union-nut made of nickel-plated brass
Shut-off facility	yes
Pre-setting	yes
Draining/filling support	yes
Measuring support	no
Place in installation	return
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Additional description	• Installation in supply also possible, draining/filling function isn't supported! • Suitable connections see 'Connections for Radiator Valves'.

Verafix-E with nickel-plated tailpiece

Body pattern	DN size mm	Kvs value	Connection diameter inch	Port connection type	Type
angle to DIN	10	1,7	3/8	internal threads	**V2420E0010**
angle to DIN	15	1,7	1/2	internal threads	**V2420E0015**
angle to DIN	20	1,7	3/4	internal threads	**V2420E0020**
straight to DIN	10	1,4	3/8	internal threads	**V2420D0010**
straight to DIN	15	1,45	1/2	internal threads	**V2420D0015**
straight to DIN	20	1,5	3/4	internal threads	**V2420D0020**

Verafix-E with external threads

Body pattern	DN size mm	Kvs value	Connection diameter inch	Port connection type	Type
straight	15	1,45	3/4	external threads	**V2426D0015**

Accessories

Draining adapter for all sizes	**VA3300A001**
Special Verafix tool	**VA8300A001**

Spare parts

Nickel-plated cover cap for all sizes	**VS3301C001**
Sealing ring for cover cap	**VS3302A001**
Valve insert	**VS1300VF02**
Pressure cap, for valves DN10	**VA2202A010**
Pressure cap, for valves DN15	**VA2202A015**
Pressure cap, for valves DN20	**VA2202A020**
Sealing ring for pressure cap, for valves DN10	**VA5090A010**
Sealing ring for pressure cap, for valves DN15	**VA5090A015**
Sealing ring for pressure cap, for valves DN20	**VA5090A020**

Valves for Compact Radiators

Valve Inserts (V200N, V200S)

Low-noise thermostatic compact radiator valve insert with pre-settable stroke limitation. S type with additional sleeve and seat sealing.
For water-based heating systems as valve insert for compact radiators or six-point radiators.

Materials	Brass with EPDM O-rings and seat sealing, spindle made of stainless steel.
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	1 bar
Closing dimension	11,5 mm
Stroke	2,5 mm
Body-head connection	M30 x 1,5
Pre-settable	by stroke limitation
Colour of protection cap	white
Heat exchanger connection	1/2 inch

Kvs value	Type
1,5	**V200NCUB15**
1,1	**V200SCUB15**

Verafix-VK (V2461, V2471) connection block for compact and six-point radiators

Pre-settable H-block for compact and six-point radiators. With pre-setting, shut-off facility and draining support. Suitable for radiators with 3/4" external or 1/2" internal thread connections.
For water-based heating systems.

Materials	Valve housing made of matt nickel-plated hot-forged brass, valve insert made of brass with EPDM or NBR O-ring sealings and brass union connections.
Shut-off facility	yes
Pre-setting	yes
Draining/filling support	yes
Measuring support	no
Place in installation	supply and return
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 110 °C
Static pressure	PN10
Supply/return port distance	50 mm
DN size	15 mm
Connection diameter	3/4 inch
Port connection type	external threads
Additional description	Please note: • kvs-values one-pipe version refer to 50% radiator proportion valve insert with kv=0,87. • Suitable connections see 'Connections for Radiator Valves' for suitable pipe connections.

Verafix-VK for two-pipe systems

Body pattern	Kvs value	Heat exchanger connection inch	Type
angle	1,5	G3/4A	**V2471EX20**
angle	1,5	G1/2	**V2471EY15**
straight	1,5	G3/4A	**V2471DX20**
straight	1,5	G1/2	**V2471DY15**

Verafix-VK for one- and two-pipe systems

Body pattern	Kvs value	Heat exchanger connection inch	Type
angle	1,23	G3/4A	**V2461EX20**
angle	1,23	G1/2	**V2461EY15**
straight	1,15	G3/4A	**V2461DX20**
straight	1,15	G1/2	**V2461DY15**

Accessories

Draining adapter for Verafix-VK and -VKE	**VA3300B001**

Verafix-VKE (V2476) connection block for compact and six-point radiators

Pre-settable H-block for compact and six-point radiators. With shut-off facility. Suitable for radiators with 3/4" external or 1/2" internal thread connections.
For water-based heating systems.

Materials	Valve housing made of matt nickel-plated hot-forged brass, valve insert made of brass with EPDM or NBR O-ring sealings and brass union connections.
Shut-off facility	yes
Pre-setting	yes
Draining/filling support	no
Measuring support	no
Place in installation	supply and return
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 110 °C
Static pressure	PN10
Supply/return port distance	50 mm
DN size	15 mm
Kvs value	1,5
Connection diameter	3/4 inch
Port connection type	external threads
Additional description	Suitable connections see 'Connections for Radiator Valves'.

Body pattern	Heat exchanger connection inch	Type
angle	G3/4A	**V2476EX020**
angle	G1/2	**V2476EY015**
straight	G3/4A	**V2476DX020**
straight	G1/2	**V2476DY015**

Verafix-EK (V2465, V2466) radiator lockshield valves with special connections for compact and six-point radiators

Pre-settable radiator lockshield valve for compact and six-point radiators. With shut-off facility and draining support. Suitable for radiators with 3/4" external or 1/2" internal thread connections.
For water-based heating systems.

Materials	Valve housing made of matt nickel-plated red bronze, valve insert made of brass with EPDM or NBR O-ring sealings and brass union connections.
Shut-off facility	yes
Pre-setting	yes
Draining/filling support	yes
Measuring support	no
Place in installation	supply and return
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
DN size	15 mm
Additional description	Two Verafix-EK are required to connect a radiator.

Verafix-EK with external thread pipe connection

Body pattern	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
angle	1,7	3/4	external threads	G1/2	**V2465EX015**
angle	1,7	3/4	external threads	G3/4A	**V2465EY015**
straight	1,45	3/4	external threads	G1/2	**V2465DX015**
straight	1,45	3/4	external threads	G3/4A	**V2465DY015**

Verafix-EK with internal thread pipe connection

Body pattern	Kvs value	Connection diameter inch	Port connection type	Heat exchanger connection inch	Type
angle	1,7	1/2	internal threads	G1/2	**V2466EX015**
angle	1,7	1/2	internal threads	G3/4A	**V2420E0015**
straight	1,45	1/2	internal threads	G1/2	**V2466DX015**
straight	1,45	1/2	internal threads	G3/4A	**V2420D0015**

Accessories

Draining adapter	**VA3300A001**
Special Verafix tool	**VA8300A001**

Verafix-VKE H-Block for Compact and 6-point Radiators (V2495)

The Verafix-VKE is an lockshield valve for compact radiators with connection centres of 50 mm. It is used on two-pipe systems with radiators which have integral valves to regulate and shut-off individual radiators.
For water-based heating systems.

Materials	Valve housing made of hot-forged brass, valve insert made of brass with EPDM or PTFE sealings.
Shut-off facility	yes
Place in installation	supply and return
Medium type	water
Media temp.	2 ... 120 °C
Static pressure	PN10
Supply/return port distance	50 mm
DN size	15 mm
Connection diameter	3/4 inch
Additional description	Suitable connections see 'Connections for Radiator Valves'.

Ordering Information

Body pattern	Kvs value	Port connection type	Heat exchanger connection inch	Type
angle	1,8	external threads	G3/4A	**V2495EX020A**
angle	1,8	internal threads	G1/2	**V2495EY015A**
straight	3,5	external threads	G3/4A	**V2495DX020**
straight	3,5	internal threads	G1/2	**V2495DY015**

Accessories

Double nipple (2 pcs)	**VS3295A015**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 10 mm	**VA7200A010**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 12 mm	**VA7200A012**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 14 mm	**VA7200A014**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 15 mm	**VA7200A015**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 16 mm	**VA7200A016**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 18 mm	**VA7200A018**
Connection for PE-X pipe (2 pcs); 3/4" x 14 x 2 mm	**OT112M-3/4D**
Connection for PE-X pipe (2 pcs); 3/4" x 16 x 2 mm	**OT112M-3/4F**
Connection for PE-X pipe (2 pcs); 3/4" x 16 x 2.2 mm	**OT112M-3/4F2**
Connection for PE-X pipe (2 pcs); 3/4" x 17 x 2 mm	**OT112M-3/4G**
Connection for PE-X pipe (2 pcs); 3/4" x 18 x 2 mm	**OT112M-3/4H**
Connection for composite pipe (2 pcs); 3/4" x 14 x 2 mm	**OT113M-3/4D**
Connection for composite pipe (2 pcs); 3/4" x 16 x 2 mm	**OT113M-3/4F**
Connection for composite pipe (2 pcs); 3/4" x 18 x 2 mm	**OT113M-3/4H**
Connection for copper pipe (2 pcs); 3/4" x 10 mm	**OT114M-3/4B**
Connection for copper pipe (2 pcs); 3/4" x 12 mm	**OT114M-3/4C**
Connection for copper pipe (2 pcs); 3/4" x 14 mm	**OT114M-3/4D**
Connection for copper pipe (2 pcs); 3/4" x 15 mm	**OT114M-3/4E**
Connection for copper pipe (2 pcs); 3/4" x 16 mm	**OT114M-3/4F**
Connection for copper pipe (2 pcs); 3/4" x 18 mm	**OT114M-3/4H**

Verafix-VKE H-Block for Compact (V2496)

The Verafix-VKE is an lockshield valve for compact radiators with connection centres of 50 mm. It is used on two-pipe systems with radiators which have integral valves to regulate and shut-off individual radiators. For water-based heating systems.

Materials	Valve housing made of hot-forged brass, valve insert made of brass with EPDM or PTFE sealings.
Shut-off facility	yes
Place in installation	supply and return
Medium type	water
Media temp.	2 ... 120 °C
Static pressure	PN10
Supply/return port distance	50 mm
DN size	15 mm
Connection diameter	3/4 inch
Port connection type	external threads
Additional description	• Optional flow direction. Performance values apply for both directions of flow • Robust brass housing • Connection on pipework side 3/4" external thread for copper, soft steel, plastic and composite pipes • Connectors on radiator side 1/2" internal or 3/4" external thread

Ordering Information

Body pattern	Kvs value	Heat exchanger connection (inch)	Type
angle	1,8	G3/4A	**V2496EX020A**
angle	1,8	G1/2	**V2496EY015A**
straight	3,5	G3/4A	**V2496DX020**
straight	3,5	G1/2	**V2496DY015**

Accessories

Double nipple (2 pcs)	**VS3296A015**
Flat seal	**VA5096A015**
Flat seal and cone (2 pcs)	**VA5096B015**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 10 mm	**VA7200A010**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 12 mm	**VA7200A012**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 14 mm	**VA7200A014**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 15 mm	**VA7200A015**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 16 mm	**VA7200A016**
Connections for copper and soft steel pipe (2 pcs); 3/4" x 18 mm	**VA7200A018**
Connection for PE-X pipe (2 pcs); 3/4" x 14 x 2 mm	**OT112M-3/4D**
Connection for PE-X pipe (2 pcs); 3/4" x 16 x 2 mm	**OT112M-3/4F**
Connection for PE-X pipe (2 pcs); 3/4" x 16 x 2.2 mm	**OT112M-3/4F2**
Connection for PE-X pipe (2 pcs); 3/4" x 17 x 2 mm	**OT112M-3/4G**
Connection for PE-X pipe (2 pcs); 3/4" x 18 x 2 mm	**OT112M-3/4H**
Connection for composite pipe (2 pcs); 3/4" x 14 x 2 mm	**OT113M-3/4D**
Connection for composite pipe (2 pcs); 3/4" x 16 x 2 mm	**OT113M-3/4F**
Connection for composite pipe (2 pcs); 3/4" x 18 x 2 mm	**OT113M-3/4H**
Connection for copper pipe (2 pcs); 3/4" x 10 mm	**OT114M-3/4B**
Connection for copper pipe (2 pcs); 3/4" x 12 mm	**OT114M-3/4C**
Connection for copper pipe (2 pcs); 3/4" x 14 mm	**OT114M-3/4D**
Connection for copper pipe (2 pcs); 3/4" x 15 mm	**OT114M-3/4E**
Connection for copper pipe (2 pcs); 3/4" x 16 mm	**OT114M-3/4F**
Connection for copper pipe (2 pcs); 3/4" x 18 mm	**OT114M-3/4H**

OT112M Connection for plastic pipe

Connection to connect plastic pipe to valves with 3/4" external thread and eurocone
For hydronic heating and cooling systems

Product description	Type
3/4" x 14 x 2mm (for 14 x 2mm Pe-X pipe), pack of 2 pcs	**OT112M-3/4D**
3/4" x 16 x 2mm (for 16 x 2mm Pe-X pipe), pack of 2 pcs	**OT112M-3/4F**
3/4" x 16 x 2.2mm (for 16 x 2.2mm Pe-X pipe), pack of 2 pcs	**OT112M-3/4F2**
3/4" x 17 x 2mm (for 17 x 2mm Pe-X pipe), pack of 2 pcs	**OT112M-3/4G**
3/4" x 18 x 2mm (for 18 x 2mm Pe-X pipe), pack of 2 pcs	**OT112M-3/4H**

Balancing and Pipeline Valves Page

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V5000 Kombi-3-plus RED Fixed Orifice Measuring Valve

Shut-off valve with measuring support for supply mains and branches. To be used in combination with a V5010 Kombi-3-plus BLUE double-regulating balancing valve in the return.
Water-based heating and cooling systems.

Materials	Valve housing made of red bronze, valve insert made of brass with EPDM O-rings and PTFE seat sealing, handwheel made of red plastic
Body pattern	Y-pattern
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN16
Draining/filling support	yes
Measuring support	yes
Connection of accessories	through spindle
Place in installation	supply
Additional description	• Supports Honeywell measuring method: measuring and pre-setting of control valve simultaneously. • Suitable connections see 'Connections for Balancing and Pipework Valves'.

With internal threads to ISO 7 (DIN2999)

DN size (mm)	Kvs value	Port connection type	Port diameter (inch)	Type
10	1,5	internal threads	Rp 3/8	**V5000Y0010**
15	2,5	internal threads	Rp 1/2	**V5000Y0015**
20	4,5	internal threads	Rp 3/4	**V5000Y0020**
25	6,5	internal threads	Rp 1	**V5000Y0025**
32	13	internal threads	Rp 1 1/4	**V5000Y0032**
40	20	internal threads	Rp 1 1/2	**V5000Y0040**
50	35	internal threads	Rp 2	**V5000Y0050**
65	42	internal threads	Rp 2 1/2	**V5000Y0065**
80	68	internal threads	Rp 3	**V5000Y0080**

With external threads to DIN/ISO 228. Connection nuts and sealings are supplied with the valve

DN size (mm)	Kvs value	Port connection type	Port diameter (inch)	Type
10	1,5	external threads	G 5/8 A	**V5000X0010**
15	2,5	external threads	G 3/4 A	**V5000X0015**
20	4,5	external threads	G 1 A	**V5000X0020**
25	6,5	external threads	G 1 1/4 A	**V5000X0025**
32	13	external threads	G 1 1/2 A	**V5000X0032**
40	20	external threads	G 1 3/4 A	**V5000X0040**
50	35	external threads	G 2 3/8 A	**V5000X0050**

Accessories

Insulation shells for valves DN10 and DN15	**VA2510C015**
Insulation shells for valves DN20	**VA2510C020**
Insulation shells for valves DN25	**VA2510C025**
Insulation shells for valves DN32	**VA2510C032**
Insulation shells for valves DN40	**VA2510C040**
Insulation shells for valves DN50	**VA2510C050**
Draining and filling adapter	**VA3500A001**
Pressure measuring kit	**VA3502A001**
Anti-tamper protection cap, for DN15 to DN25	**VA2501A010**
Anti-tamper protection cap, for DN32 to DN50	**VA2501A032**
BasicMES handheld measuring computer in case with accessories	**VM241A1002**

V5010 Kombi-3-plus BLUE Double Regulating Balancing Valve

Double-regulating balancing valve for mains and branch pipelines. To be used in conjunction with a V5000 Kombi-3-plus RED valve in the supply. Possibility of conversion into automatic Dp controller (with V5012 Kombi-DP), also after commissioning.
For water-based heating and cooling systems.

Materials	Valve housing made of red bronze, valve insert made of brass with EPDM O-rings and PTFE seat sealing, handwheel made of blue plastic
Body pattern	Y-pattern
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN16
Pre-setting	yes
Position indication	Digital display of pre-setting value.
Draining/filling support	yes
Automatic balancing support	yes
Connection of accessories	through spindle
Place in installation	return
Additional description	• Can be converted into automatic Dp-Controller by retrofitting a V5012 Kombi-DP Diaphragm Unit (see 'Accessories'), also after installation has been put into service. • Suitable connections see 'Connections for Balancing and Pipework Valves'.

With internal threads to ISO 7 (DIN2999)

DN size (mm)	Kvs value	Port connection type	Port diameter (inch)	Type
10	2,4	internal threads	Rp 3/8	**V5010Y0010**
15	2,7	internal threads	Rp 1/2	**V5010Y0015**
20	6,4	internal threads	Rp 3/4	**V5010Y0020**
25	6,8	internal threads	Rp 1	**V5010Y0025**
32	21	internal threads	Rp 1 1/4	**V5010Y0032**
40	22	internal threads	Rp 1 1/2	**V5010Y0040**
50	38	internal threads	Rp 2	**V5010Y0050**
65	47,7	internal threads	Rp 2 1/2	**V5010Y0065**
80	71	internal threads	Rp 3	**V5010Y0080**

With external threads to DIN/ISO 228. Connection nuts and sealings are supplied with the valve

DN size (mm)	Kvs value	Port connection type	Port diameter (inch)	Type
10	2,4	external threads	G 5/8 A	**V5010X0010**
15	2,7	external threads	G 3/4 A	**V5010X0015**
20	6,4	external threads	G 1 A	**V5010X0020**
25	6,8	external threads	G 1 1/4 A	**V5010X0025**
32	21	external threads	G 1 1/2 A	**V5010X0032**
40	22	external threads	G 1 3/4 A	**V5010X0040**
50	38	external threads	G 2 3/8 A	**V5010X0050**

Accessories

Adapter for actuator with M30 x 1,5 connection	**VA2500A001**
Anti-tamper protection cap, for DN10 to DN25	**VA2501A010**
Anti-tamper protection cap, for DN32 to DN50	**VA2501A032**
Insulation shells for valves DN10 and DN15	**VA2510C015**
Insulation shells for valves DN20	**VA2510C020**
Insulation shells for valves DN25	**VA2510C025**
Insulation shells for valves DN32	**VA2510C032**
Insulation shells for valves DN40	**VA2510C040**
Insulation shells for valves DN50	**VA2510C050**
Draining and filling adapter	**VA3500A001**
V5012 Kombi-DP automatic Dp controller-kit, for 0.1 to 0.3 bar Dp setpoint	**V5012C0103**
V5012 Kombi-DP automatic Dp controller-kit, for 0.3 to 0.6 bar Dp setpoint	**V5012C0306**

V5012C Kombi-DP Diaphragm Unit

Diaphragm unit for upgrade of V5010 Kombi-3-plus BLUE and V5032 Kombi-2-plus valves to automatic balancing valves. Unit is retrofittable: can be fitted when system has already been taken into commission and under system pressure.
For water-based heating and cooling systems.

Materials	Membrane housing made of stainless steel with EPDM membrane, spindle and pipe connections made of brass
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN10
Max. delta P	2 bar
Pre-setting	yes
Position indication	V5012C0103 optionally with installed external setpoint adapter VA2503A001 (accessory).
Additional description	Suitable for V5010 Kombi-3-plus BLUE DN10...40 and V5032 Kombi-2-plus DN15...40.

Differential pressure setpoint range bar	Type
0,1 ... 0,3	**V5012C0103**
0,3 ... 0,6	**V5012C0306**

Accessories

Auxiliary spring to reduce Dp range to 0.05-0.1 bar (only for V5012C0103)	**VA2502A002**
Setting adapter for external pre-setting (only for V5012C0103)	**VA2503B001**
Compression ring and nut R1/4 for 6 mm Cu-pipe	**VS5500A008**
Shutoff valve for impulse tube	**VS5501A008**

Service Parts

Stainless steel spindle assembly	**VS2500KDP1**
Compression ring and nut R1/4 for 4 mm Cu-pipe	**VS5500A004**

V5015 Kombi-FC Flow Controller

V5015 Kombi-FC flow controllers are installed in the return of systems with constant volume flows, for example one-pipe systems. They support a hydronic balance by keeping the flow through consumers at a constant pre-set level even under changing pressure conditions. Apart from flow control the V5015 Kombi-FC also provides shutoff and draining functions (see accessories). The compact body design allows installation under restricted space conditions.
For hydronic heating and cooling systems.

Materials	Body made of red bronze with brass insert and EPDM O-rings and soft sealings. Diaphragm housing made of stainless steel. Handwheel and socket made of blue plastic.
Body pattern	straight
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN16
Max. delta P	2 bar
Pre-setting	yes
Position indication	handwheel with scale
Draining/filling support	yes
Connection of accessories	through spindle
Place in installation	return
Port connection type	external threads
Additional description	• We recommend to use a V5000 Kombi-3-plus RED in the supply. • Suitable connections see 'Connections for Balancing and Pipework Valves'.

DN size mm	Kvs value	Port diameter inch	Type
15	2,5	G 3/4 A	**V5015X0015**
25	4	G 1 1/4 A	**V5015X0025**
40	10	G 1 3/4 A	**V5015X0040**

Accessories

Draining adapter	**VA3500A001**

Reduction and Extension Parts

Extension tailpiece valve DN15 > DN20 (G1A) including sealing-ring and union-nut	**VA2101A020**
Extension tailpiece valve DN25 > DN32 (G1 1/2A) including sealing-ring and union-nut	**VA2101A032**
Reduction tailpiece valve DN25 > R3/4 external thread	**VA5510A020**
Reduction tailpiece valve DN40 > R1 1/4 external thread	**VA5510A032**
Reduction tailpiece valve DN25 > DN20 steel pipe	**VA5511A020**
Reduction tailpiece valve DN40 > DN32 steel pipe	**VA5511A032**
Reduction tailpiece valve DN25 > 22 mm copper pipe	**VA5512A020**
Reduction tailpiece valve DN40 > 35 mm copper pipe	**VA5512A032**

V5032 Kombi-2-plus Variable Orifice Double-Regulating Balancing Valve

Shutoff and balancing valve for the return mains and branch pipelines.
For water-based heating and cooling systems.

Materials	Valve housing made of red bronze RG5 to DIN 1705 with brass pressure test cocks, insert made of brass with EPDM O-rings and PTFE seat sealing, handwheel made of blue plastic
Body pattern	Y-pattern
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN16
Pre-setting	yes
Position indication	Digital display of pre-setting value.
Draining/filling support	yes
Measuring support	yes
Automatic balancing support	yes
Connection of accessories	spindle / side connections
Place in installation	return
Port connection type	internal threads
Additional description	• Can be converted into automatic Dp-controller by retrofitting a V5012 Kombi-DP Diaphragm Unit (see 'Accessories'), also after installation has been put into service. • Suitable connections see 'Connections for Balancing and Pipework Valves'.

DN size mm	Kvs value	Port diameter inch	Type
15	2,7	Rp 1/2	**V5032Y0015**
20	6,4	Rp 3/4	**V5032Y0020**
25	6,8	Rp 1	**V5032Y0025**
32	21	Rp 1 1/4	**V5032Y0032**
40	22	Rp 1 1/2	**V5032Y0040**
50	38	Rp 2	**V5032Y0050**
65	47,7	Rp 2 1/2	**V5032Y0065**
80	71	Rp 3	**V5032Y0080**

Accessories

V5012 Kombi-DP diaphragm unit, 0.1-0.3 bar	**V5012C0103**
V5012 Kombi-DP diaphragm unit, 0.3-0.6 bar	**V5012C0306**
Draining and filling adapter	**VA3500A001**
Adapter for actuator with M30 x 1,5 connection	**VA2500A001**
Anti-tamper protection cap, for DN15 to DN25	**VA2501A010**
Anti-tamper protection cap, for DN32 to DN50	**VA2501A032**
Insulation shells for valves DN10 and 15	**VA2510C015**
Insulation shells for valves DN20	**VA2510C020**
Insulation shells for valves DN25	**VA2510C025**
Insulation shells for valves DN32	**VA2510C032**
Insulation shells for valves DN40	**VA2510C040**
Insulation shells for valves DN50	**VA2510C050**
Extension piece for pressure test cock, length 45 mm	**VA2601A008**
Set of measuring adapters (2 pcs.)	**VA3600A008**
BasicMES handheld measuring computer in case with accessories	**VM241A1002**

V6000 Kombi-F-II Flanged Double Regulating Balancing Valve

Flanged double-regulating variable orifice balancing and shut-off valves for mains pipelines.
For water-based heating and cooling systems.

Materials	Valve housing made of cast iron GG25, spindle and insert made of stainless steel with PTFE seat sealing and double maintenance-free spindle sealing
Body pattern	straight
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 120 °C
Static pressure	PN16
Pre-setting	yes
Position indication	Digital display of pre-setting. Value changes when handwheel is turned.
Measuring support	yes
Connection of accessories	side connections
Place in installation	return
Port connection type	flanges

DN size mm	Kvs value	Type
15	4,5	**V6000D0015**
20	6,6	**V6000D0020**
25	9,8	**V6000D0025**
32	15,1	**V6000D0032**
40	24,9	**V6000D0040**
50	48,5	**V6000D0050**
65	74,4	**V6000D0065**
80	111	**V6000D0080**
100	165	**V6000D0100**
125	242	**V6000D0125**
150	372	**V6000D0150**
200	704	**V6000D0200**
250	812	**V6000D0250**
300	1380	**V6000D0300**
350	1651	**V6000D0350**
400	2389	**V6000D0400**

Accessories

Set of measuring adapters (2 pcs.)	**VA3600A008**
Extension piece for pressure test cocks, length 45 mm	**VA2601A008**
BasicMES handheld measuring computer, 230V, 0-10 bar, computer is supplied with case and accessories	**VM241A1002**

Service parts

Set of pressure test cocks G 1/4 (2 pcs.)	**VA2600A008**

VA2510C Pipeline Valves Insulation Shells

VA2510C insulation shells are attached to suitable pipeline valves after valve installation and setup. They are suitable for all Kombi and Alwa-type balancing and pipeline valves with small limitations - please see data sheet for details.

Materials	EPP
Colour	anthracite
Body pattern	Y-pattern
Max. media temperature	100 °C

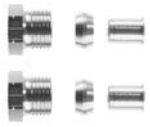
DN size mm	Type
10/15	**VA2510C015**
20	**VA2510C020**
25	**VA2510C025**
32	**VA2510C032**
40	**VA2510C040**
50	**VA2510C050**

Connections for Balancing and Pipework Valves

- Valves with internal threads are the V5000Y, V5010Y, V5020, V5032, V5040, V5100Y, V9010, VB550, VB551, VB560 and VB561.
- Valves with external threads are the V5000X, V5010X, V5015, V5016 and V5100X

Compression ring and nut for valves with internal threads

Product accessory	Type
3/8 x 10 mm	**VA650A1010**
3/8 x 12 mm	**VA650A1012**
1/2 x 10 mm	**VA650A1510**
1/2 x 12 mm	**VA650A1512**
1/2 x 14 mm	**VA650A1514**
1/2 x 15 mm	**VA650A1515**
1/2 x 16 mm	**VA650A1516**
3/4 x 18 mm	**VA650A2018**
3/4 x 22 mm	**VA650A2022**



2 compression rings, nuts and support inserts for valves with internal threads

Product accessory	Type
3/8 x 12 mm	**VA651A1012**
1/2 x 12 mm	**VA651A1512**
1/2 x 15 mm	**VA651A1515**
1/2 x 16 mm	**VA651A1516**
3/4 x 18 mm	**VA651A2018**

Brass soldering connection for valves with external threads

Product accessory	Type
12 mm, for valves DN10	**VA5530A010**
15 mm, for valves DN15	**VA5530A015**
22 mm, for valves DN20	**VA5530A020**
28 mm, for valves DN25	**VA5530A025**
35 mm, for valves DN32	**VA5530A032**
42 mm, for valves DN40	**VA5530A040**
54 mm, for valves DN50	**VA5530A050**

Steel welding connection for valves with external threads

Product accessory	Type
for valves DN10	**VA5540A010**
for valves DN15	**VA5540A015**
for valves DN20	**VA5540A020**
for valves DN25	**VA5540A025**
for valves DN32	**VA5540A032**
for valves DN40	**VA5540A040**
for valves DN50	**VA5540A050**

Externally threaded brass connection for valves with external threads

Product accessory	Type
3/8, for valves DN10	**VA5500A010**
1/2, for valves DN15	**VA5500A015**
3/4 for valves DN20	**VA5500A020**
1, for valves DN25	**VA5500A025**
1 1/4, for valves DN32	**VA5500A032**
1 1/2, for valves DN40	**VA5500A040**
2, for valves DN50	**VA5500A050**

Sealing ring for valves with external threads (also supplied with valve)

Product accessory	Type
3/8, for valves DN10	**VA5090A010**
1/2, for valves DN15	**VA5090A015**
3/4 for valves DN20	**VA5090A020**
1, for valves DN25	**VA5090A025**
1 1/4, for valves DN32	**VA5090A032**
1 1/2, for valves DN40	**VA5090A040**
2, for valves DN50	**VA5090A050**

V5100 Stop Valve-3 Shutoff Valve

Shutoff valve for the supply or return of mains and branch pipelines. Also suitable for combination with a V5010 Kombi-3-plus BLUE or V5032 Kombi-2-plus balancing valve.
Water-based heating and cooling systems.

Materials	Valve housing made of red bronze, spindle made of brass with EPDM O-rings and PTFE seat sealing, handwheel made of black plastic
Body pattern	Y-pattern
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 130 °C
Static pressure	PN16
Draining/filling support	yes
Connection of accessories	through spindle
Place in installation	supply or return
Additional description	Suitable connections see 'Connections for Balancing and Pipework Valves'.

With internal threads to ISO 7 (DIN 2999)

DN size mm	Kvs value	Port connection type	Port diameter inch	Type
10	2,5	internal threads	Rp 3/8	**V5100Y0010**
15	2,5	internal threads	Rp 1/2	**V5100Y0015**
20	7	internal threads	Rp 3/4	**V5100Y0020**
25	7	internal threads	Rp 1	**V5100Y0025**
32	22	internal threads	Rp 1 1/4	**V5100Y0032**
40	22	internal threads	Rp 1 1/2	**V5100Y0040**

With external threads to DIN/ISO 228

DN size mm	Kvs value	Port connection type	Port diameter inch	Type
10	2,5	external threads	G 5/8 A	**V5100X0010**
15	2,5	external threads	G 3/4 A	**V5100X0015**
20	7	external threads	G 1 A	**V5100X0020**
25	7	external threads	G 1 1/4 A	**V5100X0025**
32	22	external threads	G 1 1/2 A	**V5100X0032**
40	22	external threads	G 1 3/4 A	**V5100X0040**

Accessories

Draining and filling adapter	**VA2500A001**

Hydronic zoning

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Honeywell

V4043C Motorized Zone Valves

Motorized spring-return 2-port hydronic zone valves
Honeywell V4043C 2-port hydronic valves are used in domestic and small commercial heating and cooling applications to control the flow of hot or cold water

Materials	Brass valve housing, zinc-plated steel actuator cover and base
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	5 ... 88 °C
Ambient temperature	... 50 °C
Max. operating pressure	8,6 bar
Power supply	220-240V, 50Hz
Input signal	SPST
Power loss action	valve closed
Type of terminals	flying lead
Cable length	1000 mm
Valve type	2-way
Port connection type	internal threads

Port diameter inch	Kvs value	Max. differential pressure for close-off bar	Type
1/2	3	1,38	**V4043C1255**
3/4	6,9	0,55	**V4043C1263**
1	8,6	0,45	**V4043C1271**

V4044C, V4044F Motorized Zone Valves

Motorized spring-return 3-port hydronic zone valves
Honeywell V4044C and F 3-port hydronic valves are used in domestic and small commercial heating and cooling applications to control the flow of hot or cold water

Materials	Brass valve housing, zinc-plated steel actuator cover and base
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	5 ... 88 °C
Ambient temperature	... 50 °C
Max. operating pressure	8,6 bar
Power supply	220-240V, 50Hz
Input signal	SPST
Power loss action	valve closed
Type of terminals	flying lead
Cable length	1000 mm
Valve type	3-way diverting
Port connection type	internal threads

V4044C Motorized zone valve

End switch function/capacity	Port diameter inch	Kvs value	Max. differential pressure for close-off bar	Type
–	1/2	3	1,4	**V4044C1452**
–	3/4	6	0,7	**V4044C1460**
–	1	8,1	0,55	**V4044C1478**

V4044F Motorized zone valve with auxiliary switch

End switch function/capacity	Port diameter inch	Kvs value	Max. differential pressure for close-off bar	Type
yes; SPDT	3/4	6	0,7	**V4044F1000**
yes; SPST	1	8,1	0,55	**V4044F1034**

VC Series Motorized Zone Valves - Actuators

Balanced motorized 2-port or 3-port hydronic valves

- Suitable valve bodies are listed in product group 'VC Series Motorized Zone Valves - Valve Bodies'

Honeywell VC Series balanced 2-position hydronic valves are used in domestic and small commercial heating and cooling applications to control the flow of hot and/or cold water. They consist of an actuator, valve and a cartridge assembly

Materials	Actuator cover and base made of plastic
Ambient temperature	... 65 °C
Type of terminals	Molex(TM) socket

VC Actuator

Power supply	Input signal	Type
24V, 50-60Hz	SPDT	**VC2010ZZ00**
230V, 50-60Hz	SPST	**VC4012ZZ00**
230V, 50-60Hz	SPDT	**VC6012ZZ00**
24V, 50-60Hz	SPST	**VC8010ZZ00**

Accessories

VC Series 3-wire cable with Molex(TM) plug	**40007035-005**

VC Series Motorized Zone Valves - Valve Bodies

Balanced motorized 2-port or 3-port hydronic valves

- Suitable actuators are listed in product group 'VC Series Motorized Zone Valves - Actuators'

Honeywell VC Series balanced 2-position hydronic valves are used in domestic and small commercial heating and cooling applications to control the flow of hot and/or cold water. They consist of an actuator, valve and a cartridge assembly

Materials	Valve housing made of red bronze, cartridge made of plastic with stainless steel spindle
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	1 ... 95 °C
Max. operating pressure	20 bar
Max. differential pressure for close-off	4 bar

VC Zone Valve (2-port)

Valve type	Port connection type	Port diameter inch	Kvs value	Type
2-way	internal threads	1	6	**VCZAP1000**
2-way	external threads	1	6	**VCZAQ1000**

VC Diverting Valve (3-port)

Valve type	Port connection type	Port diameter inch	Kvs value	Type
3-way diverting	external threads	3/4	6,9	**VCZMG6000**
3-way diverting	internal threads	3/4	7	**VCZMH6000**
3-way diverting	internal threads	1	7,7	**VCZMP6000**
3-way diverting	external threads	1	7,7	**VCZMQ6000**

Service Parts

VC Series replacement cartridge for 2-port zone valves, on/off	**VCZZ1000**
VC Series replacement cartridge for 3-port diverting valves, on/off	**VCZZ6000**

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Honeywell

Diaphragm safety valve for closed heating systems, SM110

Membrane safety valves of this type are used to protect closed heating systems according to EN 12828.
In accordance with statutory requirements, the diaphragm safety valve is preset to the required fixed set pressure by the manufacturer and is sealed with an embossed security cap marked with the test badge and pressure rating to prevent unauthorised tampering with the setting. Subsequent alteration of the setting is not permitted and is impossible without destroying the security cap. The preset pressure is embossed on the security cap.

Approvals	Certified to Pressure Equipment Directive 97/23/EC, Refe-rence No. CE 0036
Media	• Water or glycol-water mixture,according to VDI 2035 • Liquids of the fluid group 1 and 2 (pressure device guideline, item 9) which do not affect the materials used.
Materials	Brass housing; spring steel adjustment spring; high grade synthetic material security cap; hot water resistant elastomer diaphragm
Mounting position	horizontal
Max. media temperature	120 °C
Additional description	• Opening pressure factory preset to 1.5, 2.0, 2.5, 3.0, 4.0 or 6.0 bar • Standardised discharge connection • With lifting device • Protected against subsequent changing of the default settings

with 1/2" internal threads on inlet and outlet

Set pressure (bar)	Port connection type	Type
2,5	internal threads	**SM110-1/2ZA2.5**
3	internal threads	**SM110-1/2ZA3.0**

with 1/2" internal threads on inlet and 3/4" on outlet

Set pressure (bar)	Port connection type	Type
1,5	internal threads	**SM110-1/2A1.5**
2	internal threads	**SM110-1/2A2.0**
2,5	internal threads	**SM110-1/2A2.5**
3	internal threads	**SM110-1/2A3.0**
4	internal threads	**SM110-1/2A4.0**
6	internal threads	**SM110-1/2A6.0**

with 3/4" internal threads on inlet and outlet

Set pressure (bar)	Port connection type	Type
2,5	internal threads	**SM110-3/4ZA2.5**
3	internal threads	**SM110-3/4ZA3.0**

with 3/4" internal threads on inlet and 1" on outlet

Set pressure (bar)	Port connection type	Type
1,5	internal threads	**SM110-3/4A1.5**
2,5	internal threads	**SM110-3/4A2.5**
3	internal threads	**SM110-3/4A3.0**
4	internal threads	**SM110-3/4A4.0**

with 1/2" external threads on inlet and 3/4" internal threads on outlet

Set pressure (bar)	Port connection type	Type
1,5	internal and external threads	**SM110-1/2AA1.5**
2	internal and external threads	**SM110-1/2AA2.05**
3	internal and external threads	**SM110-1/2AA3.05**

Diaphragm safety valve for closed heating and solar installations, SM120

The SM120 diaphragm safety valve provides the last line of security for heating systems if the prescribed safety controls fail. In an emergency they must therefore have the capacity to discharge the whole contents of a cylinder in the form of steam. In normal system use they do not come into operation.
For hydronic heating systems to DIN 4751.

Approvals	Construction tested to TRD 721
Materials	Brass housing and spring bonnet with hot water resistant elastomer diaphragm and seal disc; high quality plastic venting knob
Media	water
Max. media temperature	120 °C
Port connection type	internal threads

SM120 with 2,5 bar set pressure for closed heating systems

Plant output	Type
50 kW (45.000 kcal/h)	**SM120-1/2A**
100 kW (90.000 kcal/h)	**SM120-3/4A**
200 kW (175.000 kcal/h)	**SM120-1A**
350 kW (300.000 kcal/h)	**SM120-11/4A**

SM120 with 3,0 bar set pressure for closed heating systems

Plant output	Type
50 kW (45.000 kcal/h)	**SM120-1/2B**
100 kW (90.000 kcal/h)	**SM120-3/4B**
200 kW (175.000 kcal/h)	**SM120-1B**
350 kW (300.000 kcal/h)	**SM120-11/4B**

Diaphragm safety valve for closed hot drinking water systems, SM150

Membrane safety valves of this type are used to protect closed hot drinking water systems according to DIN 1988 and DIN 4753-1.
In accordance with statutory requirements, the diaphragm safety valve is preset to the required fixed set pressure by the manufacturer and is sealed with an embossed security cap marked with the test badge and pressure rating to prevent unauthorised tampering with the setting. Subsequent alteration of the setting is not permitted and is impossible without destroying the security cap. The preset pressure is embossed on the security cap.

Approvals	Certified to Pressure Equipment Directive 97/23/EC, Refe-rence No. CE 0036 • Meets KTW recommendations for potable water
Media	The membrane safety valve is only suitable to drain drinking water from closed hot drinking water systems according to DIN 1988 and DIN 4753-1 for protection against exceeding pressure • Water
Materials	Brass housing; spring steel adjustment spring; high grade synthetic material security cap; hot water resistant elastomer diaphragm
Mounting position	horizontal
Max. media temperature	95 °C
Port connection type	internal threads
Additional description	• Opening pressure factory preset to 6.0, 8.0 or 10.0 bar • Standardised discharge connection • With lifting device • Protected against subsequent changing of the default settings

with 1/2" internal threads on inlet and outlet

Set pressure (bar)	Type
6	**SM150-1/2ZA**
8	**SM150-1/2ZB**
10	**SM150-1/2ZC**

with 1/2" internal threads on inlet and 3/4" on outlet

Set pressure (bar)	Type
6	**SM150-1/2A**
8	**SM150-1/2B**
10	**SM150-1/2C**

with 3/4" internal threads on inlet and outlet

Set pressure (bar)	Type
6	**SM150-3/4ZA**
8	**SM150-3/4ZB**
10	**SM150-3/4ZC**

with 3/4" internal threads on inlet and 1" on outlet

Set pressure (bar)	Type
6	**SM150-3/4A**
8	**SM150-3/4B**
10	**SM150-3/4C**

Diaphragm safety valve for solar systems, SM180

The membrane safety valves of this type are used as last safe-guard for solar systems when the stipulated control and safety devices fail. They must therefore be capable to discharge the entire boiler output as steam in case of emergency.
In accordance with statutory requirements, the diaphragm safety valve is preset to the required fixed set pressure by the manufacturer and is sealed with an embossed security cap marked with the test badge and pressure rating to prevent unauthorised tampering with the setting. Subsequent alteration of the setting is not permitted and is impossible without destroying the security cap. The preset pressure is embossed on the security cap.

Approvals	Certified to Pressure Equipment Directive 97/23/EC, Refe-rence No. CE 0036
Media	• Water or glycol-water mixture,according to VDI 2035 • Liquids of the fluid group 1 and 2 (pressure device guideline, item 9) which do not affect the materials used.
Materials	Brass housing; spring steel adjustment spring; high grade synthetic material security cap; hot water resistant elastomer diaphragm
Mounting position	horizontal
Max. media temperature	160 °C
Port connection type	internal threads
Additional description	• Opening pressure factory preset to 2.5, 3.0, 4.0, 6.0, 8.0 or 10.0 bar • Standardised discharge connection • With lifting device • Protected against subsequent changing of the default settings

with 1/2" internal threads on inlet and outlet

Set pressure (bar)	Type
2,5	**SM180-1/2ZA2.5**
3	**SM180-1/2ZA3.0**
4	**SM180-1/2ZA4.0**

Set pressure (bar)	Type
6	**SM180-1/2ZA6.0**
8	**SM180-1/2ZA8.0**
10	**SM180-1/2ZA10.0**

with 1/2" internal threads on inlet and 3/4" on outlet

Set pressure (bar)	Type
2,5	**SM180-1/2A2.5**
3	**SM180-1/2A3.0**
4	**SM180-1/2A4.0**
6	**SM180-1/2A6.0**
8	**SM180-1/2A8.0**
10	**SM180-1/2A10.0**

with 3/4" internal threads on inlet and outlet

Set pressure (bar)	Type
2,5	**SM180-3/4ZA2.5**
3	**SM180-3/4ZA3.0**
4	**SM180-3/4ZA4.0**
6	**SM180-3/4ZA6.0**
8	**SM180-3/4ZA8.0**
10	**SM180-3/4ZA10.0**

with 3/4" internal threads on inlet and 1" on outlet

Set pressure (bar)	Type
2,5	**SM180-3/4A2.5**
3	**SM180-3/4A3.0**
4	**SM180-3/4A4.0**
6	**SM180-3/4A6.0**
8	**SM180-3/4A8.0**
10	**SM180-3/4A10.0**

FR124 Combustion regulator for solid fuel and multi-fuel burners

The FR 124 combustion regulator opens closes the air intake flap of solid fuel burners in proportion to the flow temperature.
For solid fuel and multi-fuel heating installations to DIN 4751.

Materials	High-quality plastic housing and adjuster knob with brass sensor pocket, chain and nickel-plated steel lever rod.
Medium type	water or water-glycol mixture according to VDI 2035
Max. media temperature	115 ^{o}C
Product description	Connection size G 3/4", chain length 1 m
Additional description	Setting range 30 to 90^{o}Celsius

	Type
	FR124-3/4A

TS130 Temperature relief valve with test facility and double sensor

The TS130 temperature relief valve is a self-acting valve which is activated by the flow temperature of the heat generator. It opens and discharges water from the heat generator or condensing coil at a flow temperature of 95°C and thereby prevents a significant temperature rise in the heat generator.
For multi-fuel boilers with integral water-heating or condensing coils in closed solid-fuel fired heating systems to DIN 4751, sheet 2.

Approvals	Construction tested to DIN 3440
Materials	Brass housing, bonnet, immersion pocket and valve piston, copper temperature sensor and capillary tube, hot-water resistant elastomer seals
Medium type	water or water-glycol mixture according to VDI 2035
Additional description	• Opening temperature 95°C • Heating system capacity max. 93 kW (80.000 kcal/h) • Flow capacity 2.000 kg/h water at a minimum flow pressure of 1,0 bar

Product description	Type
Capillary tube with protection sheath 1300 m, with approved construction	**TS130-3/4A**
Capillary tube with protection sheath 4000 m	**TS130-3/4B**

Accessories

Complete piston guide for TS 130	**TS130KF-3/4A**

TS131 Temperature relief valve with test facility and double sensor

The TS131 temperature relief valve for heating systems according to EN 12828 is a self-acting valve which is activated by the flow temperature of the heat generator. It opens and discharges water from the heat generator or condensing coil at a flow temperature of 95C and thereby prevents a significant temperature rise in the heat generator.
Multi-fuel boilers with integral water heating or condensing coils in closed solid-fuel fired heating systems to EN12828.

Approvals	Construction tested to EN14597 (TH119507)
Materials	Brass housing, bonnet and immersion pocket; copper temperature sensor; copper capillary tube; brass valve piston; hot-water-resistant elastomer seals
Max. media temperature	95 °C
Connection size	Rp 3/4" mm
Additional description	• Immersion pocket with double heat sensors • Test facility • Capillary tube protected against kinking by steel sheath • Immersion pocket with external thread

Product description	Type
Capillary tube with protection sheath 1300mm, with approved construction	**TS131-3/4A**
Capillary tube with protection sheath 4000mm	**TS131-3/4B**

Accessories

Piston guide complete for TS131 Connection size 3/4"	**TS131KF-3/4A**
Temperature motion transducer for TS131 Opening temperature 95C Capillary tube with protection sheath 1300mm	**TS131TWG-3/4A**
Temperature motion transducer for TS131 Opening temperature 95C Capillary tube with protection sheath 4000mm	**TS131TWG-3/4B**

Filling valve for closed heating systems, VF06

The VF06 filling valve permits simple and safe filling or refilling of closed heating systems. A pressure reducing valve, a check valve and a shut-off facility are combined into one unit. The pressure gauge connection enables fitting of a pressure gauge (accessory) to provide accurate checking of system pressure after filling.
For closed heating systems to DIN 4751:

- Onto a heating circuit distributor manifold,
- in combination with a water supply distributor manifold,
- on a heating boiler via a fill hose, in the supply to or directly onto a heating boiler,
- as a filling set for trouble-free and safe initial filling of a system.

Approvals	DIN/DVGW approved check valve
Materials	Brass housing, plastic spring bonnet and valve cartridge, fibre-reinforced NBR diaphrgm, NBR seals
Media	water
Max. media temperature	70 °C
Static pressure	PN16
Pressure setpoint range	0,5 ... 3 bar
Port connection type	external threads

Product description	Type
With hose union connector	**VF06-1/2A**
With threaded union connector	**VF06-1/2B**

Accessories

Pressure gauge, range 0-4 bar	**MF126-A4**
Hose connector with union nut and gasket	**0903454**
Connection set with threaded connector	**VST06-1/2A**
Double ring wrench for removal of spring bonnet	**ZR06K**

Service parts

Spring bonnet assembly	**0903445**
Valve insert assembly	**D06FA-1/2**
Check valve	**2166200**
Blanking plug with O-ring (pack of 5)	**S06K-1/4**

Filling valve for closed heating systems, VF04

The VF04 filling valve permits simple and safe filling or refilling of closed heating systems. A pressure reducing valve, a check valve and a shut-off facility are combined into one unit. The pressure gauge connection enables fitting of a pressure gauge (accessory) to provide accurate checking of system pressure after filling.
For closed heating systems to DIN 4751:

- Onto a heating circuit distributor manifold,
- in combination with a water supply distributor manifold,
- on a heating boiler via a fill hose, in the supply to or directly onto a heating boiler,
- as a filling set for trouble-free and safe initial filling of a system.

Approvals	DIN/DVGW approved check valve
Materials	Brass housing dezincification resistant, high grade synthetic material spring bonnet, fibre-reinforced NBR diaphragm, NBR seals
Media	water
Max. media temperature	70 °C
Static pressure	PN16
Pressure setpoint range	1,5 ... 6 bar
Product description	With internal and external threads

	Type
	VF04-1/2E

Accessories

Pressure gauge, range 0-4 bar	MF126-A4
Hose connector with union nut and gasket	0903454
Connection set with threaded connector	VST06-1/2A
Pressure gauge, range 0-10 bar	M39K-A10

Refilling combination, compact construction, NK295C

The refilling combination serves filling and refilling of closed heating systems to DIN EN 12828:2003. It can be connected in accordance to EN 1717 constantly with the drinking water supply. The refilling combination combines backflow preventer, pressure reducing valve and two ball valves in one appliance. All devices for refilling a heating installation according to conforming standards are contained.

Materials	Dezincification-resistant brass housing; discharge connection, valve cartridge, valve insert and spring hood in high-grade synthetic material; high-grade synthetic material check valve; seals in NBR; spring steel adjustment spring; isolation shell in EPP
Media	Water without inhibitors
Max. media temperature	65 °C
Pressure setpoint range	1,5 ... 6 bar
Product description	with 1/2" threaded connections
Additional description	• Compact construction • Constant connection with the drinking water supply in accordance with EN1717 by hose line or piping is possible • Corrosion resistant by use of brass and stainless steel • Low pressure loss and high flow rate • Optimal protection of the drinking water supply system • Triple security - two check valves and a discharge valve separate the backflow preventer into three pressure zones • Field-tested reliable pressure reducing valve • Pressure reducing valve with inlet pressure balancing - inlet pressure fluctuation does not influence the outlet pressure • Outlet pressure adjustable and directly at the pressure gauge readable • DIN/DVGW approved check valve • Variable connection options to the heating system • Low maintenance effort • Meets KTW recommendations for potable water

Standard version

	Type
	NK295C-1/2A

Refilling combination, NK300

The refilling combination serves filling and refilling of closed heating systems to DIN EN 12828:2003. It can be connected in accordance to EN 1717 constantly with the drinking water supply. The refilling combination combines backflow preventer, pressure reducing valve and two ball valves in one appliance. All devices for refilling a heating installation according to conforming standards are contained.

Materials	Dezincification resistant brass housing, discharge connection, valve cartridge, valve insert and spring hood in high-grade synthetic material, fibre-reinforced NBR diaphragm, NBR and EPDM seals, spring steel adjustment spring, stainless steel fine filter sieve.
Media	water
Max. media temperature	65 °C
Static pressure	PN10
Pressure setpoint range	1,5 ... 4 bar
Port connection type	external threads

Standard version with 1/2" threaded connections

	Type
	NK300-1/2A

Accessories

Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	TK295
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	TKA295
Double ring spanner for removal of spring hood and filter bowl.	ZR06K
Maintenance set for refilling combination NK300 for use with TK295 resp. TKA295.	WS300NK

Spare Parts

Replacement valve set	D06FA-1/2
Blanking Plug set with 0-ring (5 pieces)	S06K-1/4
Pressure gauge, range 0-4 bar	M07M-A4

Refilling combination with softening unit , NK300soft

he softening unit of the Honeywell NK300soft facilitates the softening of heating water according to VDI-guideleine 2035/I. Limescale and thereby caused damages and malfunction in hot water heating system (DIN EN 12828) are avoided efficiently.
The refilling combination fitted on the inlet and based on a BA-type backflow preventer protects the potable water supply against back flow of heating water according to DIN EN 1717.

- Intergrated water meter simplify the determination of cartridge exchang
- Easy exchange of cartridge without tools
- Constant connection with the drinking water supply in accor-dance with EN1717 by hose line or piping is possible
- Optimal protection of the drinking water supply system
- Backflow preventer approved for noise level protection, class 2
- Pressure reducing valve approved for noise level protection, class 1
- Pressure reducing valve with inlet pressure balancing - inlet pressure fluctuation does not influence the outlet pressure
- Outlet pressure adjustable and directly at the pressure gauge readable

Materials	Dezincification-resistant brass housing; discharge valve, cartridge insert, valve insert, mechanical components of the blending unit and spring bonnet made of high-quality plastic; fibre-reinforced NBR diaphragm; seals in NBR and EPDM; spring steel adjustment spring; stainless steel fine filter mesh; polypropylene cartridge
Media	water
Max. media temperature	30 °C
Static pressure	PN10
Pressure setpoint range	1,5 ... 4 bar
Port connection type	external threads
Kvs value	0,45
Housing (HxWxD)	524 mm; 495 mm
Additional description	Suitable for heating systems with the following materials: steel, copper, copper alloys and plastics. Treated water has modified corrosive chemical parameters. Conditioning by means of inhibitors is to be provided for separately.

Standard version with 1/2" threaded connections and 600micron filter in the refilling combination

	Type
	NK300soft-1/2A

Version with 1/2" threaded connections and 25micron filter in the refilling combination

	Type
	NK300soft-1/2AZ25

Accessories

Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	TK295
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	TKA295
Double ring spanner for removal of spring hood and filter bowl.	ZR06K
Maintenance set for refilling combination NK300 for use with TK295 resp. TKA295.	WS300NK

Spare Parts

Replacement valve set	D06FA-1/2
Blanking Plug set with 0-ring (5 pieces)	S06K-1/4
Pressure gauge, range 0-4 bar	M07M-A4
Water flow meter	WZ300
Air bleed valve	2421100
Cartridge 0,75l	P300-S
Cartridge 3,5l	P300-L

DU144 Automatic Bypass Valve

The DU144 automatic bypass valve controls water flow in the heating circuit according to the water pressure across it and is used to maintain a minimum flow rate through the boiler and to limit circulation pressure when other water paths are closed.
A bypass circuit must be installed if the Boiler manufacturer requires one, or specifies that a minimum flow rate has to be maintained whilst the Boiler is firing. The use of automatic bypass valves becomes particularly important when heating systems include large numbers of thermostatic radiator valves (TRVs) - whilst the TRVs are open the automatic bypass valve remains closed, however, as the TRVs start to close, the auto-matic bypass valve starts to open maintaining the required water flow through the boiler. Using an automatic bypass valve is also likely to reduce noise in systems caused by excess water velocities. Because manual or fixed position valves do not regulate the flow and allow water to bypass even when it is not necessary, building regulations require bypass circuits to use automatic bypass valves and not fixed position valves.

Materials	• Valve housing, fittings, bonnet and handwheel made of brass • Spindle made of stainless steel • All sealings made of EPDM and NBR • Protection cap made of red plastic
Medium type	water or water-glycol mixture according to VDI 2035
Media temp.	2 ... 110 °C
Max. operating pressure	10 bar
Differential pressure setpoint range	0,1 ... 0,6 bar
Kvs value	2,3

DU144

Product description	Type
with compression fittings for 22mm copper pipe	**DU144A1001**
with 3/4" external threads	**DU144A1002**
with 3/4" internal threads	**DU144A1003**

DU145 Automatic bypass and differential pressure valve

The DU145 automatic bypass and differential pressure valve is used to maintain a constant differential pressure in a heating system. It reduces flow noise in a system, particularly as thermostatic radiator valves are closed. The boiler return temperature is raised and this reduces corrosion caused by flue gas condensation. In addition, when radiator valves are closed it also maintains flow over the temperature sensor on the boiler to ensure proper operation of external temperature compensation controls. On gas-fired water heaters it guarantees a minimum flow circulation when thermostats or radiator valves are closed.
For pump-driven warm water heating systems, e.g.:

- On heating systems with three-way or four-way mixing valves, or
- on gas-fired hot water circulation heating systems.

Materials	Brass housing and fittings, plastic sping bonnet assembly and valve disc, stainless steel spring, EPDM seals
Body pattern	angle
Medium type	water or water-glycol mixture according to VDI 2035
Max. media temperature	110 °C
Max. operating pressure	3 bar
Differential pressure setpoint range	0,1 ... 0,6 bar
Additional description	For system capacities up to approx. 70 kW (60.000 kcal/h)

Product description	Port connection type	Type
Supplied with externally threaded connections	external threads	**DU145-3/4A**
–	internal threads	**DU145-3/4E**

Accessories for DU 145-3/4 A

2 soldering connections for 22 mm pipe	**VST06-3/4B**

Accessories for DU 145-3/4 E

Compression ring with backnut, 3/4 x 18 mm	**ZS109M-3/4G**
Compression ring with backnut, 3/4 x 22 mm	**ZS109M-3/4H**
2 compression rings with backnuts and support inserts, 3/4 x 18 mm	**ZS109M-3/4GS**
2 compression rings with backnuts and support inserts, 3/4 x 18 mm	**ZS109M-3/4GS**

DU146 Automatic bypass and differential pressure valve with differential pressure indicator

The DU146 automatic bypass and differential pressure valve is used to maintain a constant differential pressure in a heating system. It reduces flow noise in a system, particularly as thermostatic radiator valves are closed. The boiler return temperature is raised and this reduces corrosion caused by flue gas condensation. In addition, when radiator valves are closed it also maintains flow over the temperature sensor on the boiler to ensure proper operation of external temperature compensation controls. On gas-fired water heaters it guarantees a minimum flow circulation when thermostats or radiator valves are closed.
For pump-driven warm water heating systems, e.g.:

- On heating systems with three-way or four-way mixing valves, or
- on gas-fired hot water circulation heating systems.

Materials	Brass housing, fittings and valve disc, plastic spring bonnet assembly, composite glass display tube, stainless steel spring, EPDM seals
Body pattern	angle
Medium type	water or water-glycol mixture according to VDI 2035
Max. media temperature	110 °C
Max. operating pressure	3 bar
Differential pressure setpoint range	0,05 ... 0,5 bar
Port connection type	internal threads
Additional description	Special versions available on request.

Product description	Type
For installations up to approx. 70 kW (60.000 kcal/h)	**DU146-3/4A**
For installations up to approx. 232 kW (200.000 kcal/h)	**DU146-11/4A**

Accessories

Indicator tube assembly, consisting of indicator tube, inner tube, spring, indicator piston and 5 O-rings	**DU146AH-A**

DU146 M Automatic bypass and differential pressure valve for district heating systems

The DU146 M automatic bypass and differential pressure valve is used to maintain a constant differential pressure in a heating system. It reduces flow noise in a system, particularly as thermostatic radiator valves are closed. The boiler return temperature is raised and this reduces corrosion caused by flue gas condensation. In addition, when radiator valves are closed it also maintains flow over the temperature sensor on the boiler to ensure proper operation of external temperature compensation controls. On gas-fired water heaters it guarantees a minimum flow circulation when thermostats or radiator valves are closed.
Specially designed for disctrict heating systems, but can also be used for pump-driven warm water heating systems.

Materials	Brass housing, spring bonnet and valve disc, plastic adjuster knob, stainless steel spring, EPDM seals
Body pattern	angle
Medium type	water or water-glycol mixture according to VDI 2035
Max. media temperature	130 °C
Max. operating pressure	16 bar
Differential pressure setpoint range	0,05 ... 0,5 bar
Port connection type	internal threads
Additional description	Special versions available on request.

Product description	Type
Flow rate V = 3 cubic metres/h	**DU146M-3/4A**
Flow rate V = 10 cubic metres/h	**DU146M-11/4A**

E121 Automatic air vent

The E121 air vent is a reliable automatic venting device and is suitable for venting air or gas from heating systems or heat process installations.
For hot water heating systems, radiators, wall- and ceiling-mounted air heaters, air collection vessels, pipework circuits, boilers and air separators. Not suitable for mineral oil or liquids with mineral-oil based additives.

Materials	Brass housing and lid, high-grade plastic float, heat-resistant elastomer seal components
Medium type	water or water-glycol mixture according to VDI 2035
Max. media temperature	110 °C
Static pressure	PN10
Port connection type	external threads
Additional description	With fitted Z 121 A shut-off valve cleaning or replacement of the seal and inner components can be carried out without draining the system.

Product description	Type
Standard version, connection size R 3/8	**E121-3/8A**
Standard version, connection size R 1/2	**E121-1/2A**

Service parts

Shut-off valve, packing unit 12 pcs, for connection size R3/8"	**Z121-3/8A**
Shut-off valve, packing unit 12 pcs, for connection size R1/2"	**Z121-1/2A**
Air vent cap with float, packing unit 54 pcs, threaded connection 44x19, min. installation depth for float 46mm	**X121-AA**

Minival Solar - Automatic air vent for solar installations, E121S

The air vent is used to automatically ventilate fluid-filled systems, preferably in solar installations. Air in heating systems and other fluid-filled systems frequently causes disruptions in water cycles, as well as corrosion and noise. Therefore pay particular attention to a good ventilation.

Media	Water
Body material	brass
Max. media temperature	150 °C
Additional description	Packing unit: 12 pieces • Absolutely drip free • Long-term reliability • High ventilation capacity • Cleaning or exchange of the sealing and internal parts after additional installation of the AVSOLAR shutoff valve is possible without emptying the system • Extremely quick reaction • Particularly compact

Standard version

	Type
	E121S-3/8A
	E121S-1/2A

Accessories

Shutoff valve, Brass housing, high-grade, temperature-resistant plastic internal parts, hot water-resistant elastomer sealing ring, connection size 3/8	AVSOLAR-3/8
Shutoff valve, Brass housing, high-grade, temperature-resistant plastic internal parts, hot water-resistant elastomer sealing ring, connection size 1/2	AVSOLAR-1/2

Elite Solar - Automatic air vent for solar installations, E125S

The air vent is used to automatically ventilate fluid-filled systems, preferably in solar installations. Air in heating systems and other fluid-filled systems frequently causes disruptions in water cycles, as well as corrosion and noise. Therefore pay particular attention to a good ventilation.

Media	Water
Body material	brass
Port connection type	external threads
Max. media temperature	150 °C
Additional description	• Absolutely drip free • Long-term reliability • High ventilation capacity • Cleaning or exchange of the sealing and internal parts after additional installation of the AVSOLAR shutoff valve is possible without emptying the system • Extremely quick reaction • Particularly compact

Standard version

	Type
	E125S-3/8A
	E125S-1/2A

Accessories

Shutoff valve, Brass housing, high-grade, temperature-resistant plastic internal parts, hot water-resistant elastomer sealing ring, connection size 3/8	AVSOLAR-3/8
Shutoff valve, Brass housing, high-grade, temperature-resistant plastic internal parts, hot water-resistant elastomer sealing ring, connection size 1/2	AVSOLAR-1/2

EA122 Automatic air vent with integrated shut-off and leak protection

The EA122 air vent is a reliable automatic venting device and is suitable for venting air or gas from heating systems or heat process installations.
For hot water heating systems, radiators, wall- and ceiling-mounted air heaters, air collection vessels, pipework circuits, boilers and air separators.

Materials	Brass connections, high-grade plastic float, float housing and lid, heat-resistant elastomer seal components
Medium type	water or water-glycol mixture according to VDI 2035
Max. media temperature	110 °C
Static pressure	PN6
Port connection type	external threads
Additional description	• Integrated shut-off facility. • Expanding discs to prevent leakage. • Integrated vacuum break. • Cleaning and replacement of seal and inner components can be carried out without draining the system.

Product description	Type
Connection sizes R 1/8 and R 3/8	**EA122-AA**
Connection sizes R 1/4 and R 3/4	**EA122-BA**

Service parts

Lid with float	**0900577**
Leak protection discs (pack of 5)	**0900761**

Sludge and Air Separator, HF49

The sludge and air separator serves to separate sludge and air from the heating system. It is equipped with a sludge and contamination reduction feature that functions according to the cyclone principle. This guarantees an effective separation of the particles. There is an optional phosphate cartridge available to prevent corrosion in aluminium-free heating systems.

Body material	brass, dezincification resistant
DN size	25 mm
Max. media temperature	90 °C
Max. pressure	10 kPa
Nominal flow	3600 kg/h
Kvs value	7,8
Additional description	The sludge and air separator is installed in the heating circuit (feed and return line) and serves to separate sludge and air from the heater water.

Standard version

	Type
	HF49-1A

Accessories

Phosphate cartridge for protection of the heater system against corrosion. Use only in heater systems without aluminium materials.	**PE49**

Spare Parts

Venting insert	**EE49**
Ball valve	**KH49**

Metering

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Hydronic Meters **17-2**

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Honeywell

Potable Water Meters

Single-jet water meter for cold or warm potable water up to 90 C. Available with pulse or RF output or without output
EW147 and EW148 Series water meters are used to meter the volume throughput in cold and warm potable water pipelines. They are suitable for vertical or horizontal riser or downpipe installation.

Approvals	• EC type approval to EO6: D98-6.131.09 (cold = EW147); D98-6.331.93 (warm = EW148) • Metrological class: A BH (A - any position, B - horizontal)
Medium type	water (potable)
Static pressure	PN10
Materials	• Meter housing made of brass • Impeller and counter housing made of plastic

EW147 Series water meter for cold potable water

DN size mm	Length mm	Port diameter inch	Interface	Nominal flow (qp) m^3/h	Media temp. °C	Kvs value	Type
15	110	G 3/4 B	none	1,5	... 30	3,4	**EW147A1201**
15	130	G 3/4 B	none	1,5	... 30	3,4	**EW147A1301**
20	130	G 1 B	none	2,5	... 30	5	**EW147A2001**
15	110	G 3/4 B	pulse	1,5	... 30	3,4	**EW147P1201**
20	130	G 1 B	pulse	2,5	... 30	5	**EW147P2001**

EW148 Series water meter for warm potable water

DN size mm	Length mm	Port diameter inch	Interface	Nominal flow (qp) m^3/h	Media temp. °C	Kvs value	Type
15	110	G 3/4 B	none	1,5	... 90	3,4	**EW148A1201**
15	130	G 3/4 B	none	1,5	... 90	3,4	**EW148A1301**
20	130	G 1 B	none	2,5	... 90	5	**EW148A2001**
15	110	G 3/4 B	pulse	1,5	... 90	3,4	**EW148P1201**
20	130	G 1 B	pulse	2,5	... 90	5	**EW148P2001**

Accessories

Union nut, sealing and externally threaded red bronze tailpiece, connection size DN15	**VA7401A015**
Union nut, sealing and externally threaded red bronze tailpiece, connection size DN20	**VA7401A020**
MAPRESS stainless steel fitting with sealing, connection size DN15, for 15mm pipe	**VA7403A015**
MAPRESS stainless steel fitting with sealing, connection size DN15, for 18mm pipe	**VA7403A018**
MAPRESS stainless steel fitting with sealing, connection size DN20, for 22mm pipe	**VA7403A020**
Sanpress red bronze fitting with sealing, connection size DN15, for 15mm pipe	**VA7404A015**
Sanpress red bronze fitting with sealing, connection size DN15, for 18mm pipe	**VA7404A018**
Sanpress red bronze fitting with sealing, connection size DN20, for 22mm pipe	**VA7404A020**
868MHz RF module for EW147A and EW148A	**EWA3004612**

EW447-452 Series Mechanical Hydronic Meters

Static compact hydronic meter with electronic measurement, consisting of electronic energy integrator and mechanical volume measuring component.
Metering of hydronic heating and/or cooling energy in hydronic systems based on volume, supply and return temperature.

Approvals	MID
Features	• Can be used for heating (EW447-449), cooling or both (EW450-452) • No calming leg required on inlet or outlet • Optional remote readout via M-bus
Medium type	water
Measuring method	single jet
Display functions	LCD, 7-digit
Media temp.	0 ... 90 °C
Power source	Standard: 3V lithium battery
Max. operating pressure	16 bar

EW447-449 Mechanical Heat Meters for energy metering of heating systems

Nominal flow (qp) m^3/h	DN size mm	Length mm	Port diameter inch	Interface	Type
0,6	15	110	G 3/4 B	none	**EW447A0100**
1,5	15	110	G 3/4 B	none	**EW447A1200**
2,5	20	130	G 1 B	none	**EW447A2000**
3,5	25	260	G 1 1/4 B	none	**EW448A2800**
6,0	25	260	G 1 1/4 B	none	**EW448A3600**
10,0	40	300	G 2 B	none	**EW448A4600**
15,0	50	270	Flanges	none	**EW449A5100**
25,0	65	300	Flanges	none	**EW449A5900**
40,0	80	300	Flanges	none	**EW449A6900**
60,0	100	360	Flanges	none	**EW449A7700**
0,6	15	110	G 3/4 B	M-Bus	**EW447M0100**
1,5	15	110	G 3/4 B	M-Bus	**EW447M1200**
2,5	20	130	G 1 B	M-Bus	**EW447M2000**
3,5	25	260	G 1 1/4 B	M-Bus	**EW448M2800**
6,0	25	260	G 1 1/4 B	M-Bus	**EW448M3600**
10,0	40	300	G 2 B	M-Bus	**EW448M4600**
15,0	50	270	Flanges	M-Bus	**EW449M5100**
25,0	65	300	Flanges	M-Bus	**EW449M5900**
40,0	80	300	Flanges	M-Bus	**EW449M6900**
60,0	100	360	Flanges	M-Bus	**EW449M7700**
0,6	15	110	G 3/4 B	pulse	**EW447P0100**
1,5	15	110	G 3/4 B	pulse	**EW447P1200**
2,5	20	130	G 1 B	pulse	**EW447P2000**
3,5	25	260	G 1 1/4 B	pulse	**EW448P2800**
6,0	25	260	G 1 1/4 B	pulse	**EW448P3600**
10,0	40	300	G 2 B	pulse	**EW448P4600**
15,0	50	270	Flanges	pulse	**EW449P5100**
25,0	65	300	Flanges	pulse	**EW449P5900**
40,0	80	300	Flanges	pulse	**EW449P6900**
60,0	100	360	Flanges	pulse	**EW449P7700**

EW450-452 Mechanical Heat Meters for energy metering of cooling and combined cooling and heating systems

Nominal flow (qp) m^3/h	DN size mm	Length mm	Port diameter inch	Interface	**Type**
0,6	15	110	G 3/4 B	none	**EW450A0100**
1,5	15	110	G 3/4 B	none	**EW450A1200**
2,5	20	130	G 1 B	none	**EW450A2000**
3,5	25	260	G 1 1/4 B	none	**EW451A2800**
6,0	25	260	G 1 1/4 B	none	**EW451A3600**
10,0	40	300	G 2 B	none	**EW451A4600**
15,0	50	270	Flanges	none	**EW452A5100**
25,0	65	300	Flanges	none	**EW452A5900**
40,0	80	300	Flanges	none	**EW452A6900**
60,0	100	360	Flanges	none	**EW452A7700**
0,6	15	110	G 3/4 B	M-Bus	**EW450M0100**
1,5	15	110	G 3/4 B	M-Bus	**EW450M1200**
2,5	20	130	G 1 B	M-Bus	**EW450M2000**
3,5	25	260	G 1 1/4 B	M-Bus	**EW451M2800**
6,0	25	260	G 1 1/4 B	M-Bus	**EW451M3600**
10,0	40	300	G 2 B	M-Bus	**EW451M4600**
15,0	50	270	Flanges	M-Bus	**EW452M5100**
25,0	65	300	Flanges	M-Bus	**EW452M5900**
40,0	80	300	Flanges	M-Bus	**EW452M6900**
60,0	100	360	Flanges	M-Bus	**EW452M7700**
0,6	15	110	G 3/4 B	pulse	**EW450P0100**
1,5	15	110	G 3/4 B	pulse	**EW450P1200**
2,5	20	130	G 1 B	pulse	**EW450P2000**
3,5	25	260	G 1 1/4 B	pulse	**EW451P2800**
6,0	25	260	G 1 1/4 B	pulse	**EW451P3600**
10,0	40	300	G 2 B	pulse	**EW451P4600**
15,0	50	270	Flanges	pulse	**EW452P5100**
25,0	65	300	Flanges	pulse	**EW452P5900**
40,0	80	300	Flanges	pulse	**EW452P6900**
60,0	100	360	Flanges	pulse	**EW452P7700**

Union nut, sealing and externally threaded red bronze tail-piece for external threads

DN 15	**VA7401A015**
DN 20	**VA7401A020**
DN 25	**VA7401A025**

Sanpress red bronze compression-fitting with sealing

DN15, for 15 mm pipe-diameter	**VA7404A015**
DN15, for 18 mm pipe-diameter	**VA7404A018**
DN20, for 22 mm pipe-diameter	**VA7404A020**
DN25, for 28 mm pipe-diameter	**VA7404A025**

Union nut, sealing and internally threaded red bronze tail-piece

DN15	**VA7405A015**
DN18	**VA7405A018**
DN20	**VA7405A020**
DN25	**VA7405A025**

Ballvalve with connection for supply temperature probe

G1/2" internal threads	**EWA087HY004**
G3/4" internal threads	**EWA087HY005**
G1" internal threads	**EWA087HY006**

Ballvalve with two side connections G1/4" internal thread and one blind stop

G1/2" internal threads	**VB550SY2015**
G3/4" internal threads	**VB550SY2020**
G1" internal threads	**VB550SY2025**
G1 1/4" internal threads	**VB550SY2032**
G1 1/2" internal threads	**VB550SY2040**

Tailpiece for connection of supply temperature sensor

R1/2" external thread, M10x1 sensor thread	**EWA087HY003**
G1/4" external thread, M10x1 sensor thread	**EWA354830**

Brass immersion pockets (for use with MID meters)

35mm	**EWA3002684**
52mm	**EWA3002685**
85mm	**EWA3004406**
120mm	**EWA3004407**

EW773 Series Ultrasonic Hydronic Meters

Static compact hydronic meter with electronic measurement based on the ultrasonic principle, consisting of electronic energy integrator, ultrasonic volume measuring component and temperature sensors.
Metering of hydronic heating and/or cooling energy in hydronic systems based on volume, supply and return temperature.

Approvals	First approval in Europe for ultrasonic heat meter with dynamic range of qi/qp m^3/h 1:250 in class 2 (qp 1.5/2.5/6.0 m^3/h) • MID approval
Features	• Complete dynamic range 1:1,500 • Can be used for heating (EW7730), cooling or both (EW7731) • No calming leg required on inlet or outlet for sizes up to qp6 m^3/h • Remote reading via M-bus, RF, RS232 or optical interface • Optional plug and play modules
Medium type	water
Measuring method	ultrasonic
Display functions	LCD, 7-digit
Media temp.	5 ... 130 °C
Power source	• Standard: 3V lithium battery • Optional: 3.6V lithium battery, 230Vac or 24Vac

EW7730A Ultrasonic hydronic meter for heating applications

Nominal flow (qp) (m^3/h)	DN size (mm)	Length (mm)	Port diameter (inch)	Max. operating pressure (bar)	Interface	Function	Type
0,6	15	110	G 3/4 B	16	none (retrofittable)	none (retrofittable)	**EW7730A0100**
1,0	15	110	G 3/4 B	16	none (retrofittable)	none (retrofittable)	**EW7730A0600**
1,5	15	110	G 3/4 B	16	none (retrofittable)	none (retrofittable)	**EW7730A1200**
2,5	20	130	G 1 B	16	none (retrofittable)	none (retrofittable)	**EW7730A2000**
3,5	25	260	G 1 1/4 B	16	none (retrofittable)	none (retrofittable)	**EW7730A2800**
3,5	25	260	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7730A3000**
6,0	25	260	G 1 1/4 B	16	none (retrofittable)	none (retrofittable)	**EW7730A3600**
6,0	32	260	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7730A4000**
10,0	40	300	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7730A4800**
15,0	50	270	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7730A5200**
25,0	65	300	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7730A6000**
40,0	80	300	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7730A7000**

EW7730M Ultrasonic hydronic meter for heating applications; with M-Bus module

Nominal flow (qp) (m^3/h)	DN size (mm)	Length (mm)	Port diameter (inch)	Max. operating pressure (bar)	Interface	Function	Type
0,6	15	110	G 3/4 B	16	M-Bus	none (retrofittable)	**EW7730M0100**
1,0	15	110	G 3/4 B	16	M-Bus	none (retrofittable)	**EW7730M0600**
1,5	15	110	G 3/4 B	16	M-Bus	none (retrofittable)	**EW7730M1200**
2,5	20	130	G 1 B	16	M-Bus	none (retrofittable)	**EW7730M2000**
3,5	25	260	G 1 1/4 B	16	M-Bus	none (retrofittable)	**EW7730M2800**
3,5	25	260	Flanges	25	M-Bus	none (retrofittable)	**EW7730M3000**
6,0	25	260	G 1 1/4 B	16	M-Bus	none (retrofittable)	**EW7730M3600**
6,0	32	260	Flanges	25	M-Bus	none (retrofittable)	**EW7730M4000**
10,0	40	300	Flanges	25	M-Bus	none (retrofittable)	**EW7730M4800**
15,0	50	270	Flanges	25	M-Bus	none (retrofittable)	**EW7730M5200**
25,0	65	300	Flanges	25	M-Bus	none (retrofittable)	**EW7730M6000**
40,0	80	300	Flanges	25	M-Bus	none (retrofittable)	**EW7730M7000**

EW7730K Ultrasonic hydronic meter for heating applications; with M-Bus and pulse input modules

Nominal flow (qp) (m^3/h)	DN size (mm)	Length (mm)	Port diameter (inch)	Max. operating pressure (bar)	Interface	Function	Type
0,6	15	110	G 3/4 B	16	M-Bus	pulse input (2)	**EW7730K0100**
1,0	15	110	G 3/4 B	16	M-Bus	pulse input (2)	**EW7730K0600**
1,5	15	110	G 3/4 B	16	M-Bus	pulse input (2)	**EW7730K1200**

Nominal flow (qp) (m^3/h)	DN size (mm)	Length (mm)	Port diameter (inch)	Max. operating pressure (bar)	Interface	Function	Type
2,5	20	130	G 1 B	16	M-Bus	pulse input (2)	**EW7730K2000**
3,5	25	260	G 1 1/4 B	16	M-Bus	pulse input (2)	**EW7730K2800**
3,5	25	260	Flanges	25	M-Bus	pulse input (2)	**EW7730K3000**
6,0	25	260	G 1 1/4 B	16	M-Bus	pulse input (2)	**EW7730K3600**
6,0	32	260	Flanges	25	M-Bus	pulse input (2)	**EW7730K4000**
10,0	40	300	Flanges	25	M-Bus	pulse input (2)	**EW7730K4800**
15,0	50	270	Flanges	25	M-Bus	pulse input (2)	**EW7730K5200**
25,0	65	300	Flanges	25	M-Bus	pulse input (2)	**EW7730K6000**
40,0	80	300	Flanges	25	M-Bus	pulse input (2)	**EW7730K7000**

EW7731A Ultrasonic hydronic meter for heating and cooling applications

Nominal flow (qp) (m^3/h)	DN size (mm)	Length (mm)	Port diameter (inch)	Max. operating pressure (bar)	Interface	Function	Type
0,6	15	110	G 3/4 B	16	none (retrofittable)	none (retrofittable)	**EW7731A0100**
1,0	15	110	G 3/4 B	16	none (retrofittable)	none (retrofittable)	**EW7731A0600**
1,5	15	110	G 3/4 B	16	none (retrofittable)	none (retrofittable)	**EW7731A1200**
2,5	20	130	G 1 B	16	none (retrofittable)	none (retrofittable)	**EW7731A2000**
3,5	25	260	G 1 1/4 B	16	none (retrofittable)	none (retrofittable)	**EW7731A2800**
3,5	25	260	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7731A3000**
6,0	25	260	G 1 1/4 B	16	none (retrofittable)	none (retrofittable)	**EW7731A3600**
6,0	32	260	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7731A4000**
10,0	40	300	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7731A4800**
15,0	50	270	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7731A5200**
25,0	65	300	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7731A6000**
40,0	80	300	Flanges	25	none (retrofittable)	none (retrofittable)	**EW7731A7000**

EW7731M Ultrasonic hydronic meter for heating and cooling applications; with M-Bus module

Nominal flow (qp) (m^3/h)	DN size (mm)	Length (mm)	Port diameter (inch)	Max. operating pressure (bar)	Interface	Function	Type
0,6	15	110	G 3/4 B	16	M-Bus	none (retrofittable)	**EW7731M0100**
1,0	15	110	G 3/4 B	16	M-Bus	none (retrofittable)	**EW7731M0600**
1,5	15	110	G 3/4 B	16	M-Bus	none (retrofittable)	**EW7731M1200**
2,5	20	130	G 1 B	16	M-Bus	none (retrofittable)	**EW7731M2000**
3,5	25	260	G 1 1/4 B	16	M-Bus	none (retrofittable)	**EW7731M2800**
3,5	25	260	Flanges	25	M-Bus	none (retrofittable)	**EW7731M3000**
6,0	25	260	G 1 1/4 B	16	M-Bus	none (retrofittable)	**EW7731M3600**
6,0	32	260	Flanges	25	M-Bus	none (retrofittable)	**EW7731M4000**
10,0	40	300	Flanges	25	M-Bus	none (retrofittable)	**EW7731M4800**
15,0	50	270	Flanges	25	M-Bus	none (retrofittable)	**EW7731M5200**
25,0	65	300	Flanges	25	M-Bus	none (retrofittable)	**EW7731M6000**
40,0	80	300	Flanges	25	M-Bus	none (retrofittable)	**EW7731M7000**

EW7731K Ultrasonic hydronic meter for heating and cooling applications; with M-Bus and pulse input modules

Nominal flow (qp) (m^3/h)	DN size (mm)	Length (mm)	Port diameter (inch)	Max. operating pressure (bar)	Interface	Function	Type
0,6	15	110	G 3/4 B	16	M-Bus	pulse input (2)	**EW7731K0100**
1,0	15	110	G 3/4 B	16	M-Bus	pulse input (2)	**EW7731K0600**
1,5	15	110	G 3/4 B	16	M-Bus	pulse input (2)	**EW7731K1200**
2,5	20	130	G 1 B	16	M-Bus	pulse input (2)	**EW7731K2000**
3,5	25	260	G 1 1/4 B	16	M-Bus	pulse input (2)	**EW7731K2800**
3,5	25	260	Flanges	25	M-Bus	pulse input (2)	**EW7731K3000**
6,0	25	260	G 1 1/4 B	16	M-Bus	pulse input (2)	**EW7731K3600**
6,0	32	260	Flanges	25	M-Bus	pulse input (2)	**EW7731K4000**
10,0	40	300	Flanges	25	M-Bus	pulse input (2)	**EW7731K4800**
15,0	50	270	Flanges	25	M-Bus	pulse input (2)	**EW7731K5200**
25,0	65	300	Flanges	25	M-Bus	pulse input (2)	**EW7731K6000**
40,0	80	300	Flanges	25	M-Bus	pulse input (2)	**EW7731K7000**

Union nut, sealing and externally threaded red bronze tail-piece for external threads

DN15	VA7401A015
DN20	VA7401A020
DN25	VA7401A025

Sanpress red bronze crimp fitting with sealing

DN15, for 15 mm pipe-diameter	VA7404A015
DN15, for 18 mm pipe-diameter	VA7404A018
DN15, for 22 mm pipe-diameter	VA7404A020
DN25, for 28 mm pipe-diameter	VA7404A025

Mapress stainless steel crimp fitting with sealing

DN15, for 15 mm pipe-diameter	VA7403A015
DN15, for 18 mm pipe-diameter	VA7403A018
DN15, for 22 mm pipe-diameter	VA7403A020
DN25, for 28 mm pipe-diameter	VA7403A025

Union nut, sealing and internally threades red bronze tail-piece

DN15	VA7405A015
DN18	VA7405A018
DN20	VA7405A020
DN25	VA7405A025

Ballvalve with connection for supply temperature probe

G1/2" internal threads	EWA087HY004
G3/4" internal threads	EWA087HY005
G1" internal threads	EWA087HY006

Ballvalve with two side connections G1/4" internal thread and one blind stop

G1/2" internal threads	VB550SY2015
G3/4" internal threads	VB550SY2020
G1" internal threads	VB550SY2025
G1 1/4" internal threads	VB550SY2032
G1 1/2" internal threads	VB550SY2040

Tailpiece for connection of supply temperature sensor

R1/2" external thread, M10x1 sensor thread	EWA087HY003
G1/4" external thread, M10x1 sensor thread	EWA354830

Brass immersion pockets (for use with MID meters)

35mm	EWA3002684
52mm	EWA3002685
85mm	EWA3004406
120mm	EWA3004407

Modules

M-Bus communication module (for EW773xA types)	EWA54200001
Pulse output module (2 outputs)	EWA54200002
Pulse input module (2 inputs)	EWA54200003
RF communication module	EWA54200017
Combined pulse input/output module	EWA54200026
RS232 interface module with cable	EWA54200030

Pressure Reducing Valves, Pressure Regulators, residential/industrial

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Honeywell

Standard pattern pressure reducing valve, D04FS

Pressure reducing valves of this type protect household water installations against excessive pressure from the supply. They can also be used for industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	70 °C
Static pressure	PN16
Flow capacity Kvs	1,76
Pressure setpoint range	1,5 ... 6 bar
Balanced seat design	yes
Additional description	• Compact construction • The adjustment spring is not in contact with the potable water • Outlet pressure adjustable with green adjustment knob • Inlet pressure balancing - fluctuating inlet pressure does not influence outlet pressure

Standard pattern

Port diameter inch	DN size mm	Type
3/8	10	**D04FS-3/8A**
1/2	15	**D04FS-1/2A**
3/4	20	**D04FS-3/4A**

Accessories

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 4 bar	**M38K-A4**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 10 bar	**M38K-A10**

Standard pattern pressure reducing valve, D05F

Pressure reducing valves of this type protect household water installations against excessive pressure from the supply. They can also be used for industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Approvals	DVGW-approved for connection sizes 1/2" - 1"
Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	70 °C
Static pressure	PN25
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	no
Balanced seat design	yes
Additional description	• The outlet pressure is set by turning the adjustment knob • The set pressure is directly indicated on the set point scale • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully exchanged • Integral fine filter

Standard pattern with threaded male connections

Port diameter inch	DN size mm	Flow capacity Kvs	Type
1/2	15	2,6	**D05F-1/2A**
3/4	20	2,8	**D05F-3/4A**
1	25	3	**D05F-1A**

Standard pattern without fittings

Port diameter inch	DN size mm	Flow capacity Kvs	Type
1/2	15	2,6	**D05F-1/2E**
3/4	20	2,8	**D05F-3/4E**
1	25	3	**D05F-1E**

Accessories

Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Connection set with threaded connections	**_VST06-A**
Connection set with solder connections	**_VST06-B**

Spare Parts

Spring bonnet complete with setting scale for sizes R 1/2 - R 1	**0901515**
Valve insert complete (without filter) for sizes R 1/2 - R 1	**D05FA-1/2B**
Replacement filter insert for sizes R 1/2 + R 1	**ES05F-1/2A**
Synthetic blanking plug with O-ring (5 pcs)	**S06K-1/4**

Standard pattern pressure reducing valve, D05FS

Pressure reducing valves of this type protect household water installations against excessive pressure from the supply. They can also be used for industrial or commercial applications within the range of their specification.
By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Approvals	• DIN/DVGW approved • NF EN 1567 approved (only D05F-EF versions)
Media	Water, compressed air* and nitrogen* in consideration of valid standards (e.g. DIN EN 12502) (* As part of an installation being approved according to PED requirements, this product must also be certified)
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Max. media temperature	70 °C
Static pressure	PN25
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	no
Balanced seat design	yes
Additional description	• The outlet pressure is set by turning the adjustment knob • The set pressure is directly indicated on the set point scale • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully exchanged • Integral fine filter • Also available without fittings • Inlet pressure balancing - fluctuating inlet pressure does not influence outlet pressure • Light weight

Standard pattern with threaded male connections

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Type
external threads	1/2	15	3	**D05FS-1/2A**
external threads	3/4	20	3,5	**D05FS-3/4A**
external threads	1	25	3,7	**D05FS-1A**
external threads	11/4	32	7,3	**D05FS-11/4A**
external threads	11/2	40	7,5	**D05FS-11/2A**
external threads	2	50	7,7	**D05FS-2A**

Standard pattern without fittings

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Type
internal threads	1/2	15	3	**D05FS-1/2E**
internal threads	3/4	20	3,5	**D05FS-3/4E**
internal threads	1	25	3,7	**D05FS-1E**
internal threads	11/4	32	7,3	**D05FS-11/4E**
internal threads	11/2	40	7,5	**D05FS-11/2E**
internal threads	2	50	7,7	**D05FS-2E**

Accessories

Pressure gauge with housing diameter 50 mm, below connection thread G 1/4, range 0 - 4 bar	**M38K-A4**
Pressure gauge with housing diameter 50 mm, below connection thread G 1/4, range 0 - 10 bar	**M38K-A10**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Connection set with threaded connections	**_VST06-A**
Connection set with solder connections	**_VST06-B**

Spare Parts

Spring bonnet complete with setting scale for sizes R 1/2 - R 1	**0901515**
Spring bonnet complete with setting scale for sizes R 11/4 - R 2	**0903890**
Valve insert complete (without filter) for sizes R 1/2 - R 1	**D05FA-1/2B**
Valve insert complete (without filter) for sizes R 11/4 - R 2	**D05FA-11/4B**
Replacement filter insert for sizes R 1/2 - R 2	**ESD05FS-1/2A**
Synthetic blanking plug with O-ring (5 pcs)	**S06K-1/4**

Standard pattern pressure reducing valve, D05FT

Pressure reducing valves of this type protect household water installations against excessive pressure from the supply. They can also be used for industrial or commercial applications within the range of their specification.
By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Approvals	• DVGW-approval requested
Media	Water
Body material	brass, dezincification resistant
Spring bonnet material	brass
Max. media temperature	80 °C
Static pressure	PN16
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	no
Balanced seat design	yes
Additional description	• Suitable for hot water systems • The outlet pressure is set by turning the adjustment knob • The set pressure is directly indicated on the set point scale • The adjustment spring is not in contact with the potable water • The valve insert is made of dezincification resistant brass and can be fully exchanged • Also available without fittings • Inlet pressure balancing - fluctuating inlet pressure does not influence outlet pressure • Light weight

Standard pattern with threaded male connections

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Type
external threads	1/2	15	3	**D05FT-1/2A**
external threads	3/4	20	3,5	**D05FT-3/4A**
external threads	1	25	3,7	**D05FT-1A**
external threads	11/4	32	7,3	**D05FT-11/4A**
external threads	11/2	40	7,5	**D05FT-11/2A**
external threads	2	50	7,7	**D05FTS-2A**

Standard pattern without fittings

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Type
internal threads	1/2	15	3	**D05FT-1/2E**
internal threads	3/4	20	3,5	**D05FT-3/4E**
internal threads	1	25	3,7	**D05FT-1E**
internal threads	11/4	32	7,3	**D05FT-11/4E**
internal threads	11/2	40	7,5	**D05FT-11/2E**
internal threads	2	50	7,7	**D05FT-2E**

Accessories

Pressure gauge with housing diameter 50 mm, below connection thread G 1/4", range 0 - 10 bar	**M38T-A10**
nsulation shells Please indicate nominal size (1/2" to 2") when ordering e.g. DS05-1/2	**_DS05**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Connection set with threaded connections	**_VST06-A**
Connection set with solder connections	**_VST06-B**

Spare Parts

Spring bonnet complete with setting scale for sizes R 1/2" - R 1"	**0903919**
Spring bonnet complete with setting scale for sizes R 11/4" - R 2"	**0903920**
Valve insert complete (without filter) for sizes R 1/2" - R 1"	**D05FA-1/2T**
Valve insert complete (without filter) for sizes R 11/4" - R 2"	**D05FA-11/4T**
Replacement filter insert for sizes R 1/2" - R 2"	**ESD05FS-1/2A**
Hexagon-plug with copper sealing-ring R1/4" (5 pcs.)	**S06M-1/4**

Pressure reducing valve with balanced seat and set point scale, standard pattern

Pressure reducing valves of this type protect household water installations against excessive pressure from the supply. They can also be used for industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Approvals	DVGW, Up to size 1 1/4" approved for low noise, Group 1 without limitations
Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Integral filter	0,16 mm
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Balanced seat design	yes
Additional description	Outlet pressure preset to 3 bar • The outlet pressure is set by turning the adjustment knob • The set pressure is directly indicated on the set point scale • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully exchanged • Easily retrofittable to convert valve to a reverse-rinsing filter combination • Can be retrofitted with an inlet non-return valve

With threaded male connections, clear filter bowl

Port diameter (inch)	DN size (mm)	Max. media temperature (°C)	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
R 1/2	15	40	PN16	2,4	•	**D06F-1/2A**
R 3/4	20	40	PN16	3,1	•	**D06F-3/4A**
R 1	25	40	PN16	5,8	•	**D06F-1A**
R 1 1/4	32	40	PN16	5,9	•	**D06F-11/4A**
R 1 1/2	40	40	PN16	12,6	•	**D06F-11/2A**
R 2	50	40	PN16	12	•	**D06F-2A**

With threaded male connections, brass filter bowl

Port diameter (inch)	DN size (mm)	Max. media temperature (°C)	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
R 1/2	15	70	PN25	2,4	–	**D06F-1/2B**
R 3/4	20	70	PN25	3,1	–	**D06F-3/4B**
R 1	25	70	PN25	5,8	–	**D06F-1B**
R 1 1/4	32	70	PN25	5,9	–	**D06F-11/4B**
R 1 1/2	40	70	PN25	12,6	–	**D06F-11/2B**
R 2	50	70	PN25	12	–	**D06F-2B**

Without fittings, clear filter bowl, DN is based on connection size of tailpiece

Port diameter (inch)	DN size (mm)	Max. media temperature (°C)	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
R 1/2	15	40	PN16	2,4	•	**D06F-1/2E**
R 3/4	20	40	PN16	3,1	•	**D06F-3/4E**
R 1	25	40	PN16	5,8	•	**D06F-1E**
R 1 1/4	32	40	PN16	5,9	•	**D06F-11/4E**
R 1 1/2	40	40	PN16	12,6	•	**D06F-11/2E**
R 2	50	40	PN16	12	•	**D06F-2E**

Accessories

Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 25 bar	**M07M-A25**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Connection set with threaded connections for connection sizes R 1/2	**VST06-1/2A**
Connection set with threaded connections for connection sizes R 3/4	**VST06-3/4A**
Connection set with threaded connections for connection sizes R 1	**VST06-1A**
Connection set with threaded connections for connection sizes R 11/4	**VST06-11/4A**
Connection set with threaded connections for connection sizes R 11/2	**VST06-11/2A**
Connection set with threaded connections for connection sizes R 2	**VST06-2A**
Connection set with solder connections for connection sizes R 1/2	**VST06-1/2B**
Connection set with solder connections for connection sizes R 3/4	**VST06-3/4B**
Connection set with solder connections for connection sizes R 1	**VST06-1B**
Connection set with solder connections for connection sizes R 11/4	**VST06-11/4B**
Connection set with solder connectionsfor connection sizes R 11/2	**VST06-11/2B**
Connection set with solder connections for connection sizes R 2	**VST06-2B**
Reverse-rinsing filter for retro-conversion to a filter combination unit of pressure reducing valves	**_FN09S**
Inlet non-return valve for connection sizes R 3/4 - R 2	**_RV277**

Spare Parts

Valve insert complete (without filter) for sizes R 1/2 + R 3/4	**D06FA-1/2**
Valve insert complete (without filter) for sizes R 1 + R 1 1/4	**D06FA-1B**
Valve insert complete (without filter) for sizes R 1 1/2 + R 2	**D06FA-11/2**
Replacement filter insert for sizes R 1/2 + R 3/4	**ES06F-1/2A**
Replacement filter insert for sizes R 1 + R 1 1/4	**ES06F-1B**
Replacement filter insert for sizes R 1 1/2 + R 1 1/4	**ES06F-11/2A**
Synthetic blanking plug with O-ring (5 pcs)	**S06K-1/4**
Brass filter bowl with O-ring for sizes R 1/2 + R 3/4	**SM06T-1/2**
Brass filter bowl with O-ring for sizes R 1 + R 1 1/4	**SM06T-1B**
Brass filter bowl with O-ring for sizes R 1 1/2 + R 2	**SM06T-11/2**
Clear filter bowl with O-ring for sizes R 1/2 + R 3/4	**SK06T-1/2**
Clear filter bowl with O-ring for sizes R 1 + R 1 1/4	**SK06T-1B**
Clear filter bowl with O-ring for sizes R 1 1/2 + R 2	**SK06T-11/2**

Stainless steel pressure reducing valve with setpoint scale, D06FI

Pressure reducing valves of this type protect household water installations against excessive pressure from the supply. They can also be used for industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Approvals	DVGW approved • Up to size 11/4" approved for low noise, Group 1 without limitations
Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	stainless steel
Spring bonnet material	synthetic material
Port connection type	external threads
Integral filter	0,16 mm
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Balanced seat design	yes
Additional description	Outlet pressure preset to 3 bar • The outlet pressure is set by turning the adjustment knob • The set pressure is directly indicated on the set point scale • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully exchanged • Integral fine filter • Also available without fittings • Inlet pressure balancing - fluctuating inlet pressure does not influence outlet pressure • Light weight • Meets KTW recommendations for potable water

With threaded male connections, clear filter bowl

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
R 1/2	15	40	PN16	2,4	•	**D06FI-1/2A**
R 3/4	20	40	PN16	3,1	•	**D06FI-3/4A**
R 1	25	40	PN16	5,8	•	**D06FI-1A**
R 1 1/4	32	40	PN16	5,9	•	**D06FI-11/4A**
R 1 1/2	40	40	PN16	12,6	•	**D06FI-11/2A**
R 2	50	40	PN16	12	•	**D06FI-2A**

With threaded male connections, stainless steel filter bowl

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
R 1/2	15	70	PN25	2,4	–	**D06FI-1/2B**
R 3/4	20	70	PN25	3,1	–	**D06FI-3/4B**
R 1	25	70	PN25	5,8	–	**D06FI-1B**
R 1 1/4	32	70	PN25	5,9	–	**D06FI-11/4B**
R 1 1/2	40	70	PN25	12,6	–	**D06FI-11/2B**
R 2	50	70	PN25	12	–	**D06FI-2B**

Without fittings, clear filter bowl, DN is based on connection size of tailpiece

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
R 1/2	15	40	PN16	2,4	•	**D06FI-1/2E**
R 3/4	20	40	PN16	3,1	•	**D06FI-3/4E**
R 1	25	40	PN16	5,8	•	**D06FI-1E**
R 1 1/4	32	40	PN16	5,9	•	**D06FI-11/4E**
R 1 1/2	40	40	PN16	12,6	•	**D06FI-11/2E**
R 2	50	40	PN16	12	•	**D06FI-2E**

Accessories

Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 25 bar	**M07M-A25**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Connection set with threaded connections for connection sizes R 1/2	**VST06I-1/2A**
Connection set with threaded connections for connection sizes R 3/4	**VST06I-3/4A**
Connection set with threaded connections for connection sizes R 1	**VST06I-1A**
Connection set with threaded connections for connection sizes R 11/4	**VST06I-11/4A**
Connection set with threaded connections for connection sizes R 11/2	**VST06I-11/2A**
Connection set with threaded connections for connection sizes R 2	**VST06I-2A**
Connection set with solder connections for connection sizes R 1/2	**VST06I-1/2B**
Connection set with solder connections for connection sizes R 3/4	**VST06I-3/4B**
Connection set with solder connections for connection sizes R 1	**VST06I-1B**
Connection set with solder connections for connection sizes R 11/4	**VST06I-11/4B**
Connection set with solder connections for connection sizes R 11/2	**VST06I-11/2B**
Connection set with solder connections for connection sizes R 2	**VST06I-2B**

Spare Parts

Valve insert complete (without filter) for sizes R 1/2 + R 3/4	**D06FI-1/2**
Valve insert complete (without filter) for sizes R 1 + R 1 1/4	**D06FI-1**
Valve insert complete (without filter) for sizes R 1 1/2 + R 2	**D06FI-11/2**
Replacement filter insert for sizes R 1/2 + R 3/4	**ES06F-1/2A**
Replacement filter insert for sizes R 1 + R 1 1/4	**ES06F-1B**
Replacement filter insert for sizes R 1 1/2 + R 1 1/4	**ES06F-11/2A**
Synthetic blanking plug with O-ring (5 pcs)	**S06K-1/4**
Clear filter bowl with O-ring for sizes R 1/2 + R 3/4	**SK06T-1/2**
Clear filter bowl with O-ring for sizes R 1 + R 1 1/4	**SK06T-1B**
Clear filter bowl with O-ring for sizes R 1 1/2 + R 2	**SK06T-11/2**
Stainless steel bowl with O-ring for sizes R 1/2 + R 3/4	**SI06T-1/2**
Stainless steel bowl with O-ring for sizes R 1 + R 1 1/4	**SI06T-1**
Stainless steel filter bowl with O-ring for sizes R 1 1/2 + R 2	**SI06T-11/2**

High pressure pattern pressure reducing valve, D06FH

Pressure reducing valves of this type protect nstallations against excessive pressure from the supply. They can be used for household, industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	70 °C
Static pressure	PN25
Integral filter	0,16 mm
Pressure setpoint range	1,5 ... 12 bar
Transparant strainer chamber	no
Balanced seat design	yes
Additional description	Outlet Pressure preset to 5 bar • The outlet pressure is set by turning the adjustment knob • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully interchanged • Easily retrofittable to convert valve to a reverse-rinsing filter combination • Can be retrofitted with an inlet non-return valve

With threaded male connections, brass filter bowl

Port diameter inch	DN size mm	Flow capacity Kvs	Type
1/2	15	2,4	**D06FH-1/2B**
3/4	20	3,1	**D06FH-3/4B**
1	25	7,6	**D06FH-1B**
1 1/4	32	9,1	**D06FH-11/4B**
1 1/2	40	12,6	**D06FH-11/2B**
2	50	12	**D06FH-2B**

Accessories

Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 25 bar	**M07M-A25**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Connection set with threaded connections for connection sizes R 1/2	**VST06-1/2A**
Connection set with threaded connections for connection sizes R 3/4	**VST06-3/4A**
Connection set with threaded connections for connection sizes R 1	**VST06-1A**
Connection set with threaded connections for connection sizes R 11/4	**VST06-11/4A**
Connection set with threaded connections for connection sizes R 11/2	**VST06-11/2A**
Connection set with threaded connections for connection sizes R 2	**VST06-2A**
Connection set with solder connections for connection sizes R 1/2	**VST06-1/2B**
Connection set with solder connections for connection sizes R 3/4	**VST06-3/4B**
Connection set with solder connections for connection sizes R 1	**VST06-1B**
Connection set with solder connections for connection sizes R 11/4	**VST06-11/4B**
Connection set with solder connections for connection sizes R 11/2	**VST06-11/2B**
Connection set with solder connections for connection sizes R 2	**VST06-2B**
Reverse-rinsing filter with red bronze filter cup. Reverse-rinsing filter for retro-conversion of a pressure reducing valves to a filter combination unit	**_FN09S-AM**
Inlet non-return valve for connection sizes R 3/4 - R 2	**_RV277**

Spare Parts

Valve insert complete (without filter) for sizes R 1/2 + R 3/4	**D06FA-1/2**
Valve insert complete (without filter) for sizes R 1 + R 1 1/4	**D06FA-1A**
Valve insert complete (without filter) for sizes R 1 1/2 + R 2	**D06FA-11/2**
Replacement filter insert for sizes R 1/2 + R 3/4	**ES06F-1/2A**
Replacement filter insert for sizes R 1 + R 1 1/4	**ES06F-1A**
Replacement filter insert for sizes R 1 1/2 + R 1 1/4	**ES06F-11/2A**
Synthetic blanking plug with O-ring (5 pcs)	**S06K-1/4**
Brass filter bowl with O-ring for sizes R 1/2 + R 3/4	**SM06T-1/2**
Brass filter bowl with O-ring for sizes R 1 + R 1 1/4	**SM06T-1B**
Brass filter bowl with O-ring for sizes R 1 1/2 + R 2	**SM06T-11/2**

Low pressure pattern pressure reducing valve, D06FN

Pressure reducing valves of this type protect installations against excessive pressure from the supply. They can be used for household, industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	70 °C
Static pressure	PN25
Integral filter	0,16 mm
Pressure setpoint range	0,5 ... 2 bar
Balanced seat design	yes
Additional description	Outlet pressure preset to 1.5 bar • The outlet pressure is set by turning the adjustment knob • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully interchanged • Easily retrofittable to convert valve to a reverse-rinsing filter combination • Can be retrofitted with an inlet non-return valve

With threaded male connections, brass filter bowl

Port diameter inch	DN size mm	Flow capacity Kvs	Type
1/2	15	2,4	**D06FN-1/2B**
3/4	20	3,1	**D06FN-3/4B**
1	25	7,6	**D06FN-1B**
1 1/4	32	9,1	**D06FN-11/4B**
1 1/2	40	12,6	**D06FN-11/2B**
2	50	12	**D06FN-2B**

Accessories

Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 25 bar	**M07M-A25**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Connection set with threaded connections for connection sizes R 1/2	**VST06-1/2A**
Connection set with threaded connections for connection sizes R 3/4	**VST06-3/4A**
Connection set with threaded connections for connection sizes R 1	**VST06-1A**
Connection set with threaded connections for connection sizes R 11/4	**VST06-11/4A**
Connection set with threaded connections for connection sizes R 11/2	**VST06-11/2A**
Connection set with threaded connections for connection sizes R 2	**VST06-2A**
Connection set with solder connections for connection sizes R 1/2	**VST06-1/2B**
Connection set with solder connections for connection sizes R 3/4	**VST06-3/4B**
Connection set with solder connections for connection sizes R 1	**VST06-1B**
Connection set with solder connections for connection sizes R 11/4	**VST06-11/4B**
Connection set with solder connections for connection sizes R 11/2	**VST06-11/2B**
Connection set with solder connections for connection sizes R 2	**VST06-2B**
Reverse-rinsing filter with red bronze filter cup. Reverse-rinsing filter for retro-conversion of a pressure reducing valves to a filter combination unit	**_FN09S-AM**
Inlet non-return valve for connection sizes R 3/4 - R 2	**_RV277**

Spare Parts

Valve insert complete (without filter) for sizes R 1/2 + R 3/4	**D06FNA-1/2**
Valve insert complete (without filter) for sizes R 1 + R 1 1/4	**D06FNA-1**
Valve insert complete (without filter) for sizes R 1 1/2 + R 2	**D06FNA-11/2**
Replacement filter insert for sizes R 1/2 + R 3/4	**ES06F-1/2A**
Replacement filter insert for sizes R 1 + R 1 1/4	**ES06F-1A**
Replacement filter insert for sizes R 1 1/2 + R 2	**ES06F-11/2A**
Synthetic blanking plug with O-ring (5 pcs)	**S06K-1/4**
Brass filter bowl with O-ring for sizes R 1/2 + R 3/4	**SM06T-1/2**
Brass filter bowl with O-ring for sizes R 1 + R 1 1/4	**SM06T-1B**
Brass filter bowl with O-ring for sizes R 1 1/2 + R 2	**SM06T-11/2**

Standard pattern pressure reducing valve for compressed air, D22

Pressure reducing valves of this type protect installations against excessive pressure from the supply. They can be used for industrial or commercial applications within the range of their specification. Because pressure reducing valves are subject to wear, they cannot be used as the only means of protection and if the downstream system needs to be protected against excessive pressure to prevent leakage, then a suitable safety valve must be fitted.

Approvals	Certified to Pressure Equipment Directive 97/23/EC, Reference No. CE 0035
Media	Compressed air, non-toxic and non-flammable gases
Body material	brass
Spring bonnet material	synthetic material
Port connection type	internal threads
Max. media temperature	70 °C
Static pressure	PN40
Pressure setpoint range	1 ... 10 bar
Balanced seat design	yes
Additional description	• Screw with knob for setting pressure • The adjustment spring is not in contact with the medium • Inlet pressure balancing - fluctuating inlet pressure does not influence outlet pressure • Compact construction • Short installed length • Light weight

Normal pattern

Port diameter inch	DN size mm	Type
1/4	8	**D22-1/4A**
3/8	10	**D22-3/8A**
1/2	15	**D22-1/2A**
3/4	20	**D22-3/4A**
1	25	**D22-1A**
1 1/4	32	**D22-11/4A**
1 1/2	40	**D22-11/2A**
2	50	**D22-2A**

Accessories

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, 0 - 4 bar	**M38K-A4**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, 0 - 10 bar	**M38K-A10**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, 0 - 16 bar	**M38K-A16**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, 0 - 25 bar	**M38K-A25**
Strainer With double mesh strainer, brass housing A = Mesh size approx. 0.35 mm	**FY30-3/8A**
Strainer with double mesh strainer, brass housing A = Mesh size approx. 0.35 mm	**FY30-1/2A**
Strainer with double mesh strainer, brass housing A = Mesh size approx. 0.35 mm	**FY30-3/4A**
Strainer with double mesh strainer, brass housing A = Mesh size approx. 0.35 mm	**FY30-1A**
Strainer with double mesh strainer, brass housing A = Mesh size approx. 0.35 mm	**FY30-11/4A**
Strainer with double mesh strainer, brass housing A = Mesh size approx. 0.35 mm	**FY30-11/2A**
Strainer with double mesh strainer, brass housing A = Mesh size approx. 0.35 mm	**FY30-2A**

Pressure reducing valve combination with balanced seat

The pressure reducing valve combinations combine a shutoff valve, a pressure reducing valve and a double check valve in one appliance. They protect household water installations against excessive pressure from the supply. They can also be used for industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation. The double check valve protects the mains water system against back pressure, back flow and back syphonage of health threatening liquids.

Approvals	• All individual units correspond to the requirements of current DIN/DVGW specifications. Technical features of each unit also apply to the combination assembly. • WRAS approved
Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Integral filter	0,16 mm
Balanced seat design	yes
Additional description	• Especially compact because shutoff valve, pressure reducing valve and double check valve are combined in one unit • The outlet pressure is set by turning the adjustment knob • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully exchanged • Integral fine filter

MTA06 Standard pattern

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Pressure setpoint range bar	Setpoint scale	Transparant strainer chamber	Type
R 3/4	20	40	PN16	2,7	1,5 ... 6	•	•	**MTA06-3/4B**
R 1	25	40	PN16	4,8	1,5 ... 6	•	•	**MTA06-1B**

MTA06-H High pressure version

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Pressure setpoint range bar	Setpoint scale	Transparant strainer chamber	Type
R 3/4	20	70	PN25	2,7	1,5 ... 12	–	–	**MTA06-3/4H**
R 1	25	70	PN25	6,3	1,5 ... 12	–	–	**MTA06-1H**

Accessories

Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 25 bar	**M07M-A25**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**

Spare Parts

Valve insert complete (without filter) for sizes R 3/4	**D06FA-1/2**
Valve insert complete (without filter) for sizes R 1	**D06FA-1B**
Replacement filter insert for sizes R 3/4	**ES06F-1/2A**
Replacement filter insert for sizes R 1	**ES06F-1B**
Synthetic blanking plug with O-ring (5 pcs)	**S06K-1/4**
Filter bowl with O-ring for sizes R 3/4	**SK06ZH-1/2**
Filter bowl with O-ring for sizes R 1	**SK06ZH-1**
Brass filter bowl with O-ring for sizes R 3/4	**SK06T-1/2**
Brass filter bowl with O-ring for sizes R 1	**SK06T-1A**

Standard pattern pressure reducing valve with flanged connections, D15P

Pressure reducing valves of this type protect installations against excessive pressure from the supply. They can be used for household, industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	cast iron GG25
Spring bonnet material	metal
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	70 °C
Static pressure	PN16
Balanced seat design	yes
Additional description	• Non-rising stem for setting outlet pressure and position indicator on spring bonnet (except for DN 200 mm) • The adjustment spring is not in contact with the potable water • With inlet and outlet pressure gauge (DN 50-DN 150) or with outlet pressure gauge (DN 200) • Powder coated inside and outside - Powder used is physiologically and toxicologically safe

With PN 16 flanged connections

DN size mm	Flow capacity Kvs	Pressure setpoint range bar	Type
50	28	1,5 ... 8	**D15P-50A**
65	47	1,5 ... 8	**D15P-65A**
80	70	1,5 ... 8	**D15P-80A**
100	110	1,5 ... 8	**D15P-100A**
125	180	1,5 ... 8	**D15P-125A**
150	250	1,5 ... 8	**D15P-150A**
200	380	1,5 ... 6	**D15P-200A**

Spare Parts

Pressure gauge (only for nominal size DN 200), 0 - 10 bar	**M07M-A10**
Pressure gauge, 0 - 10 bar	**M39M-A10**
Pressure gauge, 0 - 16 bar	**M39M-A16**

Low pressure pattern pressure reducing valve with flanged connections, D15NP

WRAS APPROVED PRODUCT

Pressure reducing valves of this type protect installations against excessive pressure from the supply. They can be used for industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	cast iron GG25
Spring bonnet material	metal
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	70 °C
Static pressure	PN16
Pressure setpoint range	0,2 ... 2 bar
Balanced seat design	yes
Additional description	• Non-rising stem for setting outlet pressure and position indicator on spring bonnet (except for DN 200 mm) • The adjustment spring is not in contact with the potable water • With inlet and outlet pressure gauge (DN 80 - DN 150) or with outlet pressure gauge (DN 50, DN 65, DN 200) • Powder coated inside and outside - Powder used is physiologically and toxicologically safe

With PN 16 flanged connections

DN size mm	Flow capacity Kvs	Type
50	28	**D15NP-50A**
65	47	**D15NP-65A**
80	70	**D15NP-80A**
100	110	**D15NP-100A**
125	180	**D15NP-125A**
150	250	**D15NP-150A**
200	380	**D15NP-200A**

Spare Parts

Pressure gauge, 0 - 16 bar	**M07M-A16**
Pressure gauge, 0 - 4 bar	**M07M-A4**

Standard pattern pressure reducing valve with flanged connections, D16

Pressure reducing valves of this type protect installations against excessive pressure from the supply. They can be used for household, industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water, compressed air and nitrogen
Body material	red bronze RG5
Spring bonnet material	metal
Port connection type	flanges
Max. media temperature	70 °C
Static pressure	PN25
Integral filter	0,5 mm
Pressure setpoint range	1,5 ... 12 bar
Balanced seat design	yes
Additional description	• The outlet pressure is set by turning the adjustment knob • G 1/4" pressure gauge connections on inlet and outlet • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully exchanged • Easily retrofittable to convert valve to a reverse-rinsing filter combination

With PN 25 flanged connections

DN size (mm)	Flow capacity Kvs	Type
15	3	**D16-15A**
20	3,3	**D16-20A**
25	8,5	**D16-25A**
32	10,1	**D16-32A**
40	13,5	**D16-40A**

Accessories

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 4 bar	**M38K-A4**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 10 bar	**M38K-A10**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M38K-A16**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 25 bar	**M38K-A25**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Reverse-rinsing filter with red bronze filter cup. Reverse-rinsing filter for retro-conversion of a pressure reducing valves to a filter combination unit	**_FN09S-AM**

Spare Parts

Valve insert complete (without filter) for sizes DN 15 + DN 20	**D16A-15**
Valve insert complete (without filter) for sizes DN 25 + DN 32	**D16A-25**
Valve insert complete (without filter) for size DN 40	**D16A-40**
Replacement filter insert for sizes DN 15 + DN 20	**ES16-15**
Replacement filter insert for sizes DN 25 + DN 32	**ES16-25**
Replacement filter insert for size DN 40	**ES16-40**
Brass blanking plug with O-ring (5 pcs)	**S06M-1/4**
Brass filter bowl with O-ring for sizes DN 15 + DN 20	**SM06T-1/2**
Brass filter bowl with O-ring for sizes DN 25 + DN 32	**SM06T-1B**
Brass filter bowl with O-ring for size DN 40	**SM06T-11/2**

Low pressure pattern pressure reducing valve with flanged connections, D16N

Pressure reducing valves of this type protect installations against excessive pressure from the supply. They can be used for household, industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water, compressed air and nitrogen
Body material	red bronze RG5
Spring bonnet material	metal
Port connection type	flanges
Max. media temperature	70 °C
Static pressure	PN25
Integral filter	0,5 mm
Pressure setpoint range	0,5 ... 2 bar
Balanced seat design	yes
Additional description	• The outlet pressure is set by turning the adjustment knob • G 1/4" pressure gauge connections on inlet and outlet • The adjustment spring is not in contact with the potable water • The valve insert is of high quality synthetic material and can be fully interchanged • Easily retrofittable to convert valve to a reverse-rinsing filter combination

With PN 25 flanged connections

DN size (mm)	Flow capacity Kvs	Type
15	3	**D16N-15A**
20	3,3	**D16N-20A**
25	8,5	**D16N-25A**
32	10,1	**D16N-32A**
40	13,5	**D16N-40A**

Accessories

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 4 bar	**M38K-A4**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 10 bar	**M38K-A10**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M38K-A16**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 25 bar	**M38K-A25**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**
Reverse-rinsing filter with red bronze filter cup. Reverse-rinsing filter for retro-conversion of a pressure reducing valves to a filter combination unit	**_FN09S-AM**

Spare Parts

Valve insert complete (without filter) for sizes DN 15 + DN 20	**D16NA-15**
Valve insert complete (without filter) for sizes DN 25 + DN 32	**D16NA-25**
Valve insert complete (without filter) for size DN 40	**D16NA-40**
Replacement filter insert for sizes DN 15 + DN 20	**ES16-15**
Replacement filter insert for sizes DN 25 + DN 32	**ES16-25**
Replacement filter insert for size DN 40	**ES16-40**
Brass blanking plug with o-ring (5 pcs)	**S06M-1/4**
Brass filter bowl with o-ring for sizes DN 15 + DN 20	**SM06T-1/2**
Brass filter bowl with o-ring for sizes DN 25 + DN 32	**SM06T-1B**
Brass filter bowl with o-ring for size DN 40	**SM06T-11/2**

Standard pattern pressure reducing valve with flanged connections, D17P

Pressure reducing valves of this type protect installations against excessive pressure from the supply. They can be used for household, industrial or commercial applications within the range of their specification. By installing a pressure reducing valve, pressurisation damage is avoided and water consumption is reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	spherulitic cast iron GGG40
Spring bonnet material	metal
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	70 °C
Static pressure	PN25
Balanced seat design	yes
Additional description	• Non-rising stem for setting outlet pressure and position indicator on spring bonnet (except for DN 200 mm) • The adjustment spring is not in contact with the potable water • With outlet pressure gauge • Powder coated inside and outside - Powder used is physiologically and toxicologically safe

With PN 25 flanged connections

DN size mm	Flow capacity Kvs	Pressure setpoint range bar	Type
50	28	1,5 ... 8	**D17P-50B**
65	47	1,5 ... 8	**D17P-65B**
80	70	1,5 ... 8	**D17P-80B**
100	110	1,5 ... 8	**D17P-100B**
150	250	1,5 ... 8	**D17P-150B**
200	380	1,5 ... 6	**D17P-200B**

Spare Parts

Pressure gauge, 0 - 10 bar	**M07M-A10**

Pressure regulator, DR300

Pressure regulators of this type protect downstream installations against excessive supply pressure. Pressure regulators are used when the capacity of direct controlled pressure reducing valves are insufficient. Their compact construction makes them particularly suitable for installation in limited spaces, for example in ducts. By using a pressure regulator, pressurization damage is avoided and water consumption reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Pressure setpoint range	1 ... 12 bar
Additional description	• High flow capacity • High control accuracy • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves • No external energy required for operation

Flanges, PN 16, ISO 2084

DN size mm	Flow capacity Kvs	Type
50	43	**DR300-50A**
65	43	**DR300-65A**
80	103	**DR300-80A**
100	167	**DR300-100A**
150	407	**DR300-150A**
200	676	**DR300-200A**
250	1160	**DR300-250A**
300	1600	**DR300-300A**
350	1600	**DR300-350A**
400	3300	**DR300-400A**
450	3300	**DR300-450A**

Flanges, PN 25, ISO 2084

DN size mm	Flow capacity Kvs	Type
50	43	**DR300-50B**
65	43	**DR300-65B**
80	103	**DR300-80B**
100	167	**DR300-100B**
150	407	**DR300-150B**
200	676	**DR300-200B**
250	1160	**DR300-250B**
300	1600	**DR300-300B**
350	1600	**DR300-350B**
400	3300	**DR300-400B**
450	3300	**DR300-450B**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**CX-PR**
Pressure gauge	**M07K-A16**

Filters, Strainers, Filter combinations, residential/industrial

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Honeywell

Reverse rinsing fine filter, F76S

F76S reverse rinsing filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The appliances correspond to the requirements of current DIN/DVGW specifications.

Approvals	DIN/DVGW-approved
Media	Water
Body material	brass, dezincification resistant
Integral filter	100 micron
Reverse rinsing with filtered water	yes
Mounting position	horizontal
Additional description	• Double Spin Technology for connection sizes 1/2" to 11/4" - Cartridge with external rotor enabling simultaneous cleaning in lower and upper filter areas, visual function check possible • Filtered water supplied even during reverse rinsing • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates when the next manual reverse rinsing is due • Automatic reverse rinsing actuator can be retrofitted using bayonet connector • Large filter surface

Threaded male connections, filter mesh size 100 micron

Port connection type	Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
external threads	1/2	15	40	PN16	6,9	•	**F76S-1/2AA**
external threads	3/4	20	40	PN16	9	•	**F76S-3/4AA**
external threads	1	25	40	PN16	12	•	**F76S-1AA**
external threads	1 1/4	32	40	PN16	15	•	**F76S-11/4AA**
external threads	1 1/2	40	40	PN16	22,4	•	**F76S-11/2AA**
external threads	2	50	40	PN16	25,7	•	**F76S-2AA**

Threaded male connections, red-bronze filter bowl, filter mesh size 100 micron

Port connection type	Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
external threads	1/2	15	70	PN25	6,9	–	**F76S-1/2AAM**
external threads	3/4	20	70	PN25	9	–	**F76S-3/4AAM**
external threads	1	25	70	PN25	12	–	**F76S-1AAM**
external threads	1 1/4	32	70	PN25	15	–	**F76S-11/4AAM**
external threads	1 1/2	40	70	PN25	22,4	–	**F76S-11/2AAM**
external threads	2	50	70	PN25	25,7	–	**F76S-2AAM**

Without connections, filter mesh size 100 micron, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
–	3/4	20	40	PN16	9	•	**F76S-3/4EA**
–	1	25	40	PN16	12	•	**F76S-1EA**
–	1 1/4	32	40	PN16	15	•	**F76S-11/4EA**
–	1 1/2	40	40	PN16	22,4	•	**F76S-11/2EA**
–	2	50	40	PN16	25,7	•	**F76S-2EA**

Accessories

Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Inlet check valve, Connction size 1/2"	**RV277-1/2A**
Inlet check valve, Connction size 3/4"	**RV277-3/4A**
Inlet check valve, Connction size 1"	**RV277-1A**
Inlet check valve, Connction size 11/4"	**RV277-11/4A**
Inlet check valve, Connction size 11/2"	**RV277-11/2A**
Inlet check valve, Connction size 2"	**RV277-2A**
Differential pressure switch for sizes R 1/2 + R 3/4	**DDS76-1/2**
Differential pressure switch for sizes R 1 + R 1 1/4	**DDS76-1**
Differential pressure switch for sizes R 1 1/2 + R 2	**DDS76-11/2**
Filter insert complete. Filter meshes 20 micron. Connection size 1/2" - 3/4"	**AF11S-1/2B**
Filter insert complete. Filter meshes 50 micron. Connection size 1/2" - 3/4"	**AF11S-1/2C**
Filter insert complete. Filter meshes 200 micron. Connection size 1/2" - 3/4"	**AF11S-1/2D**
Filter insert complete. Filter meshes 300 micron. Connection size 1/2" - 3/4"	**AF11S-1/2E**
Filter insert complete. Filter meshes 500 micron. Connection size 1/2" - 3/4"	**AF11S-1/2F**
Filter insert complete. Filter meshes 20 micron. Connection size 1" - 11/4"	**AF11S-1B**
Filter insert complete. Filter meshes 50 micron. Connection size 1" - 11/4"	**AF11S-1C**
Filter insert complete. Filter meshes 200 micron. Connection size 1" - 11/4"	**AF11S-1D**
Filter insert complete. Filter meshes 300 micron. Connection size 1" - 11/4"	**AF11S-1E**
Filter insert complete. Filter meshes 500 micron. Connection size 1" - 11/4"	**AF11S-1F**
Filter insert complete. Filter meshes 20 micron. Connection size 11/2" - 2"	**AF11S-11/2B**
Filter insert complete. Filter meshes 50 micron. Connection size 11/2" - 2"	**AF11S-11/2C**
Filter insert complete. Filter meshes 200 micron. Connection size 11/2" - 2"	**AF11S-11/2D**
Filter insert complete. Filter meshes 300 micron. Connection size 11/2" - 2"	**AF11S-11/2E**
Filter insert complete. Filter meshes 500 micron. Connection size 11/2" - 2"	**AF11S-11/2F**
Filter insert complete for filters with Double Spin Technology, filter mesh size 20 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2B**
Filter insert complete for filters with Double Spin Technology, filter mesh size 50 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2C**
Filter insert complete for filters with Double Spin Technology, filter mesh size 200 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2D**
Filter insert complete for filters with Double Spin Technology, filter mesh size 300 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2E**
Filter insert complete for filters with Double Spin Technology, filter mesh size 500 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2F**
Filter insert complete for filters with Double Spin Technology, filter mesh size 20 micron. Connection size 1" - 11/4"	**AF11DS-1B**
Filter insert complete for filters with Double Spin Technology, filter mesh size 50 micron. Connection size 1" - 11/4"	**AF11DS-1C**
Filter insert complete for filters with Double Spin Technology, filter mesh size 200 micron. Connection size 1" - 11/4"	**AF11DS-1D**
Filter insert complete for filters with Double Spin Technology, filter mesh size 300 micron. Connection size 1" - 11/4"	**AF11DS-1E**
Filter insert complete for filters with Double Spin Technology, filter mesh size 500 micron. Connection size 1" - 11/4"	**AF11DS-1F**
Threaded male connection, connection size 1/2"	**VST06-1/2A**
Threaded male connection, connection size 3/4"	**VST06-3/4A**
Threaded male connection, connection size 1"	**VST06-1A**
Threaded male connection, connection size 11/4"	**VST06-11/4A**
Threaded male connection, connection size 11/2"	**VST06-11/2A**
Threaded male connection, connection size 2"	**VST06-2A**

Solder union connection, connection size 1/2"	**VST06-1/2B**
Solder union connection, connection size 3/4"	**VST06-3/4B**
Solder union connection, connection size 1"	**VST06-1B**
Solder union connection, connection size 11/4"	**VST06-11/4B**
Solder union connection, connection size 11/2"	**VST06-11/2B**
Solder union connection, connection size 2"	**VST06-2B**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M76M-A16**
Filter insert complete, filter mesh size 100 micron, for sizes R 1/2 - R 3/4	**AF11S-1/2A**
Filter insert complete, filter mesh size 100 micron, for sizes R 1 - R 1 1/4	**AF11S-1A**
Filter insert complete, filter mesh size 100 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2A**
Filter insert complete for filters with Double Spin Technology, filter mesh size 100 micron, for sizes R 1/2 - R 3/4	**AF11DS-1/2A**
Filter insert complete for filters with Double Spin Technology, filter mesh size 100 micron, for sizes R 1 - R 1 1/4	**AF11DS-1A**
Clear filter bowl complete for sizes R 1/2 - R 1 1/4	**KF11S-1A**
Clear filter bowl complete for sizes R 1 1/2 - R 2	**KF11S-11/2A**
Red-bronze filter bowl for sizes R 1/2 - R 1 1/4	**FT09RS-1A**
Red-bronze filter bowl for sizes R 1 1/2 - R 2	**FT09RS-11/2A**
Ball valve complete	**KH11S-1A**
Drain connection	**AA76-1/2A**
Double ring wrench for removing the filter - sizes R 1/2 - R 3/4	**ZR10K-3/4**
Double ring wrench for removing the filter - sizes R 1 1/2 - R 2	**ZR10K-11/2**
Double ring wrench for removing the filter - sizes R 1 - R 1 1/4	**ZR10K-1**

Reverse rinsing fine filter with rotatable connector flange, F76CS

F76CS reverse rinsing filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The appliances correspond to the requirements of current DIN/DVGW specifications. F76CS fine filters are especially suitable for retrofitting to, or upgrading of existing water systems.The rotatable connector piece enables the unit to be fitted where space is very restricted in either horizontal or vertical pipework.

Approvals	DVGW-approval requested
Media	Water
Body material	brass, dezincification resistant
Port connection type	external threads
Max. media temperature	40 °C
Static pressure	PN16
Integral filter	100 micron
Transparant strainer chamber	yes
Reverse rinsing with filtered water	yes

Mounting position	horizontal or vertical
Additional description	Double Spin Technology - Cartridge with external rotor enabling simultaneous cleaning in lower and upper filter areas, visual function check possible • Filtered water supplied even during reverse rinsing • Filtered water supplied even during reverse rinsing • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates when the next manual reverse rinsing is due • Automatic reverse rinsing actuator can be retrofitted using bayonet connector • Large filter surface

Filter mesh size 100 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Type
3/4	20	7,3	**F76CS-3/4AA**
1	25	8,7	**F76CS-1AA**
1 1/4	32	9	**F76CS-11/4AA**

Accessories

Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure	**FT09RS-1A**
Retrofit pressure reducing valve to upgrade F76CS to a filter combination	**D06FB-1A**
Inlet check valve, connection size 3/4"	**RV277-3/4A**
Inlet check valve, connection size 1"	**RV277-1A**
Inlet check valve, connection size 11/4"	**RV277-11/4A**
Threaded male connection, Connection size 3/4"	**VST06-3/4A**
Threaded male connection, Connection size 1"	**VST06-1A**
Threaded male connection, Connection size 11/4"	**VST06-11/4A**
Solder union connection, Connection size 3/4"	**VST06-3/4B**
Solder union connection, Connection size 1"	**VST06-1B**
Solder union connection, Connection size 11/4"	**VST06-11/4B**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 25 bar	**M07M-A25**
Filter insert complete for filters with Double Spin Technology	**AF11DS-1A**
Clear filter bowl	**KF11S-1A**
Ball valve complete	**KH11S-1A**
Drain connection	**AA76-1/2A**
Double ring wrench for removing filterbowl	**ZR10K-3/4**

Retrofit reverse rinsing fine filter for connection flange, FN76CS

FN76CS reverse rinsing filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The appliances correspond to the requirements of current DIN/DVGW specifications. FN76CS fine filters are especially suitable for retrofitting to, or upgrading of existing water systems in which an existing filter is to be replaced. The existing connectors are then reused. Where connection sizes are different, an adapter connector can be used.

Approvals	DVGW-approval requested
Media	Water
Body material	brass, dezincification resistant
Port diameter	1 inch
DN size	25 mm
Max. media temperature	40 °C
Static pressure	PN16
Flow capacity Kvs	8,7
Integral filter	100 micron
Transparant strainer chamber	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	• Double Spin Technology - Cartridge with external rotor enabling simultaneous cleaning in lower and upper filter areas, visual function check possible • Filtered water supplied even during reverse rinsing • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates when the next manual reverse rinsing is due • Automatic reverse rinsing actuator can be retrofitted using bayonet connector • Large filter surface

Filter mesh size 100 micron

Type
FN76CS-1A

Accessories

Rotatable connector piece in connection size R3/4	**DA74C-3/4A**
Rotatable connector piece in connection size R1	**DA74C-1A**
Rotatable connector piece in connection size R1 1/4	**DA74C-11/4A**
Intermediate connector for conversion of fine filters with rotatable connector pieces (R 1 1/4 and R 1 1/2) e.g. Cillit type 77 into retrofit FKN 76 CS filter combinations	**ZA76C-11/4**
Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Red bronze filter bowl for temperatures up to 70 ^{o}C and up to 25 bar operating pressure	**FT09RS-1A**
Retrofit pressure reducing valve to upgrade F76CS to a filter combination	**D06FB-1A**
Inlet check valve, connection size 3/4"	**RV277-3/4A**
Inlet check valve, connection size 1"	**RV277-1A**
Inlet check valve, connection size 11/4"	**RV277-11/4A**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Filter insert complete, filter mesh size 100 micron	**AF11DS-1A**
Clear filter bowl complete	**KF11S-1A**
Ball valve complete	**KH11S-1A**
Drain connection	**AA76-1/2A**
Double ring wrench for removing filter bowl	**ZR10K-3/4**

Reverse rinsing fine filter with rotatable connector flange, F74C

F74C reverse rinsing filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. Both horizontal and vertical installation is possible.

Approvals	DIN/DVGW
Media	Water
Body material	synthetic material
Port connection type	external threads
Max. media temperature	30 °C
Static pressure	PN16
Transparant strainer chamber	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	• Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates time when next reverse rinsing is due • Bayonet connection enables simple retro-fitting of reverse rinsing actuator • Large filter surface • Shock resistant clear synthetic material filter bowl enables easy inspection of filter contamination

Threaded male connection, mesh size 100 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	100	**F74C-3/4AA**
R 1	25	6	100	**F74C-1AA**
R 1 1/4	32	6,5	100	**F74C-11/4AA**

Threaded male connection, mesh size 50 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	50	**F74C-3/4AC**
R 1	25	6	50	**F74C-1AC**
R 1 1/4	32	6,5	50	**F74C-11/4AC**

Threaded male connection, mesh size 200 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	200	**F74C-3/4AD**
R 1	25	6	200	**F74C-1AD**
R 1 1/4	32	6,5	200	**F74C-11/4AD**

Accessories

Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Inlet check valve, connection size 3/4"	**RV277-3/4A**
Inlet check valve, connection size 1"	**RV277-1A**
Inlet check valve, connection size 11/4"	**RV277-11/4A**
Connector piece for conversion of the fine filters with rotatable connector pieces (1 1/4" and 1 1/2") into retrofit filter combinations (Converts 63 mm hole centres to 45 mm hole centres)	**ZA76C**
Threaded male connection, connection size 3/4"	**VST06-3/4A**
Threaded male connection, connection size 1"	**VST06-1A**
Threaded male connection, connection size 11/4"	**VST06-11/4A**
Soldered union connection, connection size 3/4"	**VST06-3/4B**
Soldered union connection, connection size 1"	**VST06-1B**
Soldered union connection, connection size 11/4"	**VST06-11/4B**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Filter insert complete, filter mesh size 100 micron	**AF74-1A**
Filter insert complete, filter mesh size 50 micron	**AF74-1C**
Filter insert complete, filter mesh size 200 micron	**AF74-1D**
Clear filter bowl complete	**KF74-1A**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR10K-3/4**

Reverse rinsing fine filter for connection flange, FN74C

FN74C reverse rinsing filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. FN74C fine filters are especially suited for retro-fitting to or modernisation of existing water supply systems to buildings where an existing filter is to be replaced. On new installations the DA74C rotatable connector piece should be used (to be ordered separately).

Approvals	DIN/DVGW in conjunction with rotatable connector piece DA74C
Media	Water
Body material	synthetic material
DN size	25 mm
Max. media temperature	30 °C
Static pressure	PN16
Flow capacity Kvs	8,8
Transparant strainer chamber	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	• Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates time when next reverse rinsing is due • Bayonet connection enables simple retro-fitting of reverse rinsing actuator • Large filter surface • Shock resistant clear synthetic material filter bowl enables easy inspection of filter contamination

Filter mesh size 100 micron

Integral filter micron	Type
100	**FN74C-1A**

Filter mesh size 50 micron

Integral filter micron	Type
50	**FN74C-1C**

Accessories

Rotatable connector piece in connection size R 3/4	**DA74C-3/4A**
Rotatable connector piece in connection size R 1	**DA74C-1A**
Rotatable connector piece in connection size R 1 1/4	**DA74C-11/4A**
Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Connector piece for conversion of the fine filters with rotatable connector pieces (1 1/4" and 1 1/2") into retrofit filter combinations (Converts 63 mm hole centres to 45 mm hole centres)	**ZA76C**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Filter insert complete, filter mesh size 100 micron	**AF74-1A**
Filter insert complete, filter mesh size 50 micron	**AF74-1C**
Filter insert complete, filter mesh size 200 micron	**AF74-1D**
Clear filter bowl complete	**KF74-1A**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR10K-3/4**

Rinseable fine filter, MiniPlus-FF06

Rinseable MiniPlus fine filters ensure a continuous supply of filtered water. The fine filter stops the flow of particulates, for example rust particles, strands of hemp, or grains of sand. Sediment collected at the bottom of the filter bowl can simply be removed by flushing with the flick of a finger. Compact in size, these filters were designed to fit where space is limited.

Approvals	DIN/DVGW
Media	Water
Body material	brass, dezincification resistant
Static pressure	PN16
Integral filter	100 micron
Mounting position	horizontal
Additional description	• Easy installation • Shock resistant clear synthetic material filter bowl enables easy inspection of filter contamination • Filter bowl and sieve easily exchanged • Body with female and male threads • Reliable and tested

Threaded male connections, filter mesh size 100 micron

Port connection type	Port diameter inch	DN size mm	Max. media temperature °C	Flow capacity Kvs	Transparant strainer chamber	Type
external threads	1/2	15	40	3,3	•	**FF06-1/2AA**
external threads	3/4	20	40	6,2	•	**FF06-3/4AA**
external threads	1	25	40	7,2	•	**FF06-1AA**
external threads	1 1/4	32	40	8,5	•	**FF06-11/4AA**

Threaded male connections, filter bowl of dezincification resistance brass, filter mesh size 100 micron

Port connection type	Port diameter inch	DN size mm	Max. media temperature °C	Flow capacity Kvs	Transparant strainer chamber	Type
external threads	1/2	15	80	3,3	•	**FF06-1/2AAM**
external threads	3/4	20	80	6,2	•	**FF06-3/4AAM**
external threads	1	25	80	7,2	•	**FF06-1AAM**

Without connections, filter bowl of dezincification resistant brass, filter mesh size 100 micron

Port connection type	Port diameter inch	DN size mm	Max. media temperature °C	Flow capacity Kvs	Transparant strainer chamber	Type
internal threads	1/2	15	40	3,3	–	**FF06-1/2EA**
internal threads	3/4	20	40	6,2	–	**FF06-3/4EA**
internal threads	1	25	40	7,2	–	**FF06-1EA**

Accessories

Inlet check valve, connection size 1/2"	**RV277-1/2A**
Inlet check valve, connection size 3/4"	**RV277-3/4A**
Inlet check valve, connection size 1"	**RV277-1A**
Inlet check valve, connection size 11/4"	**RV277-11/4A**
Threaded male connection, connection size 1/2"	**VST06-1/2A**
Threaded male connection, connection size 3/4"	**VST06-3/4A**
Threaded male connection, connection size 1"	**VST06-1A**
Soldered union connection, connection size 1/2"	**VST06-1/2B**
Soldered union connection, connection size 3/4"	**VST06-3/4B**
Soldered union connection, connection size 1"	**VST06-1B**

Spare Parts

Exchange filter insert complete for size R 1/2 + R 3/4	**AS06-1/2A**
Exchange filter insert complete for sizes R 1 + R 1 1/4	**AS06-1A**
Clear filter bowl complete with filter and carrier body, for size R 1/2	**KF06-1/2A**
Clear filter bowl complete with filter and carrier body, for size R 3/4 - R 1 1/4	**KF06-1A**
Double ring wrench. For removing filter bowl	**ZR06F**

SIMPLEX water filter, or activated carbon filter, FF20

In applications where only one filter type is needed a SIMPLEX filter with the selected filter cartridge can be used. Activated carbon removes dissolved organic material and chlorine. The polypropylene cartridge holds back undissolved matter.
The filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of particulates, for example rust particles, strands of hemp and grains of sand. The filters can be applied to rain water treatment within the range of their specifications.

Media	Water
Body material	synthetic material
Port connection type	internal threads
Port diameter	3/4 inch
Max. media temperature	45 °C
Static pressure	PN16
Transparant strainer chamber	yes
Mounting position	horizontal
Additional description	• Large filter surface • Filter insert fully interchangeable • Very simple operation • Reliable and tested

Simplex water filter

Flow capacity Kvs	Integral filter micron	Type
6	25	**FF20-MF**
1,4	5	**FF20-AC**

Accessories

Inlet check valve	**_RV277**
Check valve	**_RV284**
Connection set with threaded male connection	**_VST06-A**
Connection set with union soldered connection	**_VST06-B**

Spare Parts

Replacement filter cartridge	**FF20-DMF**
Replacement active carbon cartridge	**FF20-GAC**

DUPLEX water filter with activated carbon cartridge, FF40

The DUPLEX water filter combines two different filter cartridges in one housing. Activated carbon removes dissolved organic material and chlorine. The polypropylene cartridge holds back undissolved matter.
The filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of particulates, for example rust particles, strands of hemp and grains of sand. The filters can be applied to rain water treatment within the range of their specifications.

Media	Water
Body material	synthetic material
Port connection type	internal threads
Port diameter	3/4 inch
DN size	20 mm
Max. media temperature	45 °C
Static pressure	PN16
Flow capacity Kvs	1,4
Integral filter	25 micron
Transparant strainer chamber	yes
Mounting position	horizontal
Additional description	• Large filter surface • Filter insert fully interchangeable • Very simple operation • Reliable and tested

Duplex water filter

	Type
	FF40
Accessories	
Inlet check valve	_RV277
Check valve	_RV284
Connection set with threaded male connection	_VST06-A
Connection set with union soldered connection	_VST06-B
Spare Parts	
Replacement filter cartridge	FF20-DMF
Replacement active carbon cartridge	FF20-GAC

TRIPLEX filter with washable prefilter, FF60

The TRIPLEX water filter combines three different filter cartridges in one housing. Washable prefilter, the polypropylene cartridge holds back undissolved matter. Activated Carbon cartridge filters out fine particles, eliminates of unpleasant odors and flavours caused by chlorine or other organic substances, removes of pesticides, insecticides, chlorinate solvents.
The filters ensure a continuous supply of filtered water. The fine filter prevents the ingress of particulates, for example rust particles, strands of hemp and grains of sand. The filters can be applied to rain water treatment within the range of their specifications.

Media	Water
Body material	synthetic material
Port connection type	internal threads
Port diameter	3/4 inch
DN size	20 mm
Max. media temperature	45 °C
Static pressure	PN16
Flow capacity Kvs	0,8
Integral filter	25 micron
Transparant strainer chamber	yes
Mounting position	horizontal
Additional description	• Large filter surface • Filter insert fully interchangeable • Very simple operation • Reliable and tested

Triplex water filter

	Type
	FF60
Accessories	
Inlet check valve	_RV277
Check valve	_RV284
Connection set with threaded male connection	_VST06-A
Connection set with union soldered connection	_VST06-B
Spare Parts	
Replacement filter cartridge, 100 micron	FF60-WMF
Replacement filter cartridge, 25 micron	FF20-DMF
Replacement active carbon cartridge	FF20-GAC

Retrofit reverse rinsing fine filter for D06F pressure reducing valves, FN09S

HABEDO FN09S retrofit reverse rinsing filters are suitable for retrofitting to existing D06F pressure reducing valves. The converted pressure reducing valve then fulfils the same functions as a Honeywell Braukmann filter combination. The fine filter prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The appliances correspond to current DIN/DVGW specifications.

Media	Water
Integral filter	100 micron
Reverse rinsing with filtered water	yes
Mounting position	horizontal
Additional description	1/2" Port connection fits for D06F 1/2" and 3/4", 1" Port connection fits for D06F 1" and 1 1/4", 1 1/2" Port connection fits for D06F 1 1/2" and 2". Adapter made of dezincification resistant brass, filter bowl made of synthetic material or red-bronze.

- Easily fitted to existing pressure reducing valves
- Filtered water supplied even during reverse rinsing
- Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water
- Memory ring indicates when next manual reverse rinsing is due
- Automatic reverse rinsing actuator with bayonet connection can be retrofitted

Filter mesh size 100 micron. Port diameter 1 inch fits for D06F DN size 25 mm only for production dates 1977 - 1991 and for D06F DN size 40 mm only for production dates 1977 - 1996.

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Transparant strainer chamber	Type
1/2	15	40	PN16	•	**FN09S-1/2A**
1	25	40	PN16	•	**FN09S-1A**
1 1/2	40	40	PN16	•	**FN09S-11/2A**

Red bronze filter bowl, filter mesh size 100 micron. Port diameter 1 inch fits for D06F DN size 25 mm only for production dates 1977 - 1991 and for D06F DN size 40 mm only for production dates 1977 - 1996.

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Transparant strainer chamber	Type
1/2	15	70	PN25	–	**FN09S-1/2AM**
1	25	70	PN25	–	**FN09S-1AM**
1 1/2	40	70	PN25	–	**FN09S-11/2AM**

Filter mesh size 100 micron. Fits for D06F DN size 25 mm only for production dates 1991 and onwards and for D06F DN size 40 mm only for production dates 1996 and onwards.

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Transparant strainer chamber	Type
1	25	40	PN16	•	**FN09S-1AN**

Red bronze filter bowl, filter mesh size 100 micron. Fits for D06F DN size 25 mm only for production dates 1991 and onwards and for D06F DN size 40 mm only for production dates 1996 and onwards.

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Transparant strainer chamber	Type
1	25	70	PN25	–	**FN09S-1AMN**

Accessories

Ring wrench for assembly of retrofit filter in sizes R 1/2 - R 1 1/4	**ZR08-1**
Ring wrench for assembly of retrofit filter in sizes R 1 1/2 + R 2	**ZR08-11/2**
Double ring wrench for removal of filter bowl, for R 1/2 - R 1 1/4	**ZR10K-1**
Double ring wrench for removal of filter bowl, for R 1 1/2 + R 2	**ZR10K-11/2**
Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure, for R 1/2 - R 1 1/4	**FT09RS-1A**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure, for R 1 1/2 + R 2	**FT09RS-11/2A**

Spare Parts

Filter insert complete, filter mesh size 100 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1A**
Filter insert complete, filter mesh size 20 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1B**
Filter insert complete, filter mesh size 50 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1C**
Filter insert complete, filter mesh size 200 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1D**
Filter insert complete, filter mesh size 300 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1E**
Filter insert complete, filter mesh size 500 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1F**
Filter insert complete, filter mesh size 100 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2A**
Filter insert complete, filter mesh size 20 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2B**
Filter insert complete, filter mesh size 50 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2C**
Filter insert complete, filter mesh size 200 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2D**
Filter insert complete, filter mesh size 300 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2E**
Filter insert complete, filter mesh size 500 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2F**
Clear filter bowl complete for sizes R 1/2 - R 1 1/4	**KF11S-1A**
Clear filter bowl complete for sizes R 1 1/2 - R 2	**KF11S-11/2A**
Ball valve complete	**KH11S-1A**
Drain connection	**AA76-1/2A**

Reverse rinsing actuator for fully automatic filter cleaning, Z11AS

The Z11AS automatic reverse rinsing actuator provides fully automatic cleaning for all Honeywell reverse rinsing filters, filter combinations, water supply units and water distributor units. The reverse rinsing intervals are adjustable in sixteen steps between four minutes and three months. The Z11AS has an emergency running function in the event of power failure (only when batteries are fitted) and offers the possibility of manual operation of the reverse rinsing function. Connection options are available for differential pressure switching, remote control and remote monitoring.
For fully automatic reverse rinsing of Honeywell filters, filter combinations and water supply unit.

Approvals	CE
Media	Water
Body material	synthetic material
Max. media temperature	70 °C
Battery life	Appr. 3 years
Cable length	1,5 m
Additional description	Four LR6-1.5 V-Mignon/AA size alkali-manganese batteries (Batteries are not supplied with the appliance), time intervals 4 minutes to 3 months • Pushbuttons give easy setting of intervals • Pushbutton for manual operation of reverse rinsing • LED indicator of time interval set • LED indicator of number of reverse rinsing cycles carried out • Settings are maintained even when electrical power fails

For filters and filtercombinations HS10, F76C, FK76C, FKN76C, FN76C, FN09 (up to 1996)

Product description	Type
230 V, 50/60 Hz, 10 W, with moulded Schuko electrical plug	**Z11AS-1/2A**
24 V, 50/60 Hz, 10 W, without electrical plug	**Z11AS-1/2B**

For filters with flanges F76-F and F76S-F

Product description	Type
230 V, 50/60 Hz, 10 W, with moulded Schuko electrical plug	**Z11AS-1A**
24 V, 50/60 Hz, 10 W, without electrical plug	**Z11AS-1B**

Reverse rinsing actuator for fully automatic filter cleaning, Z11S

The Z11S automatic reverse rinsing actuator provides fully automatic cleaning for all Honeywell reverse rinsing filters, filter combinations, water supply units and water distributor units. The reverse rinsing intervals are adjustable in sixteen steps between four minutes and three months. The Z11S has an emergency running function in the event of power failure (only when batteries are fitted) and offers the possibility of manual operation of the reverse rinsing function. Connection options are available for differential pressure switching, remote control and remote monitoring.
For fully automatic reverse rinsing of Honeywell filters, filter combinations, water supply unit and water distributor units.

Approvals	CE
Media	Water
Body material	synthetic material
Max. media temperature	70 °C
Battery life	Appr. 3 years
Cable length	1,5 m
Additional description	Four LR6-1.5 V-Mignon/AA size alkali-manganese batteries (Batteries are not supplied with the appliance), time intervals 4 minutes to 3 months • Pushbuttons give easy setting of intervals • Pushbutton for manual operation of reverse rinsing • LED indicator of time interval set • LED indicator of number of reverse rinsing cycles carried out • Settings are maintained even when electrical power fails

For filters and filtercombinations HS10S, F76CS, FK76CS, FKN76CS, FN76CS, F74C, FK74C, FKN74C, FN74C and FN09S

Product description	Type
230 V, 50/60 Hz, 10 W, with moulded Schuko electrical plug	**Z11S-A**
24 V, 50/60 Hz, 10 W, without electrical plug	**Z11S-B**

Reverse rinsing actuator for fully automatic filter cleaning, Z74S

The Z74S automatic reverse rinsing actuator provides fully automatic cleaning for all Honeywell Braukmann reverse rinsing filters, filter combinations and water supply units with bayonet connection. A bayonet connection enables fitting the Z74S without tools. The reverse rinsing interval is set permanently to 45 days. The Z74S automatic reverse rinsing actuator has a safety function which prevents the ball valve from opening when the battery voltage is too low and notifies this through an acoustic signal for approx. 2 days.
Use reverse rinsing actuator Z74S for filters and filtercombinations HS10S, F76CS, FK76CS, FKN76CS, FN76CS, F74C, FK74C, FKN74C, FN74C and FN09S.

Approvals	CE
Media	Water
Body material	synthetic material
Max. media temperature	40 °C
Battery life	Appr. 1 years
Additional description	Three LR6-1.5 V-Mignon/AA size alkali-manganese batteries (Batteries are not supplied with the appliance) • Bayonet connection enables fitting without tools • With locking mechanism which prevents the ball valve from opening, if the battery voltage is too low to carry out the closing • Set during manufacture to 45 day interval • Battery operation • Manufactured with integral electrical suppression

With bayonet connection

	Type
	Z74S-A

Reverse rinsing fine filter with flanges, F76S-F

F76S-F flanged reverse rinsing filters are for installations with high water demand. They can be used in large residential buildings, for central water supply and in commercial or industrial applications. F76S-F flanged filters have the same highly efficient reverse rinsing filtering system as the range of household fine filters. The F76S-F can be retrofitted with the Z11AS fully automatic reverse rinsing actuator and the DDS76 differential pressure switch. The use of a filter in a system prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. With metal or plastics pipework, DIN 1988, Part 2 specifies that a filter should be fitted in the drinking water supply immediately after the water meter.

Approvals	DIN/DVGW
Media	Water
Body material	red bronze RG5
Port connection type	flanges
Max. media temperature	70 °C
Static pressure	PN16
Reverse rinsing with filtered water	yes
Mounting position	horizontal
Additional description	• Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Fully automatic reverse rinsing with retrofittable Z11AS automatic reverse rinsing actuator • Differential pressure switch can be retrofitted • Reverse rinsing strainer mesh is covered during normal operation • Red bronze construction gives high level of corrosion protection

Filter mesh size 100 micron

DN size mm	Flow capacity Kvs	Integral filter micron	Type
65	90	100	**F76S-65FA**
80	125	100	**F76S-80FA**
100	158	100	**F76S-100FA**
125	158	100	**F76S-125ZFA**

Filter mesh size 20 micron

DN size mm	Flow capacity Kvs	Integral filter micron	Type
65	90	20	**F76S-65FB**
80	125	20	**F76S-80FB**
100	158	20	**F76S-100FB**

Filter mesh size 50 micron

DN size mm	Flow capacity Kvs	Integral filter micron	Type
65	90	50	**F76S-65FC**
80	125	50	**F76S-80FC**
100	158	50	**F76S-100FC**

Filter mesh size 200 micron

DN size mm	Flow capacity Kvs	Integral filter micron	Type
65	90	200	**F76S-65FD**
80	125	200	**F76S-80FD**
100	158	200	**F76S-100FD**

Filters with flanges

Filter mesh size 500 micron

DN size mm	Flow capacity Kvs	Integral filter micron	Type
65	90	500	**F76S-65FF**
80	125	500	**F76S-80FF**
100	158	500	**F76S-100FF**

Accessories

Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11AS-1A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11AS-1B**
Differential pressure switch for sizes DN 65 - DN 100	**DDS76-1**
Check valve in grey cast iron housing, powder coated inside and outside. DIN/DVGW tested in compulsory test sizes DN 65, DN 80 and DN 100. Connection size DN 65	**RV283P-65A**
Check valve in grey cast iron housing, powder coated inside and outside. DIN/DVGW tested in compulsory test sizes DN 65, DN 80 and DN 100. Connection size DN 80	**RV283P-80A**
Check valve in grey cast iron housing, powder coated inside and outside. DIN/DVGW tested in compulsory test sizes DN 65, DN 80 and DN 100. Connection size DN 100	**RV283P-100A**
Pressure reducing valve in grey cast iron housing, powder coated inside and outside. Connection size DN 65	**D15P-65A**
Pressure reducing valve in grey cast iron housing, powder coated inside and outside. Connection size DN 80	**D15P-80A**
Pressure reducing valve in grey cast iron housing, powder coated inside and outside. Connection size DN 100	**D15P-100A**

Spare Parts

Pressure gauge with housing diameter 63 mm, connection thread G 1/4, range 0 - 16 bar	**M76K-A16**
Replacement sieve, filter mesh 100 micron, for size DN 65	**ES76S-65A**
Replacement sieve, filter mesh 100 micron, for size DN 80	**ES76S-80A**
Replacement sieve, filter mesh 100 micron, for size DN 100	**ES76S-100A**
Replacement sieve, filter mesh 200 micron, for size DN 65	**ES76S-65D**
Replacement sieve, filter mesh 200 micron, for size DN 80	**ES76S-80D**
Replacement sieve, filter mesh 200 micron, for size DN 100	**ES76S-100D**
Replacement sieve, filter mesh 50 micron, for size DN 65	**ES76S-65C**
Replacement sieve, filter mesh 50 micron, for size DN 80	**ES76S-80C**
Replacement sieve, filter mesh 50 micron, for size DN 100	**ES76S-100C**
Replacement sieve, filter mesh 500 micron, for size DN 65	**ES76S-65F**
Replacement sieve, filter mesh 500 micron, for size DN 80	**ES76S-80F**
Replacement sieve, filter mesh 500 micron, for size DN 100	**ES76S-100F**
Filter insert complete, filter mesh 100 micron, for size DN 65	**AF76S-65A**
Filter insert complete, filter mesh 100 micron, for size DN 80	**AF76S-80A**
Filter insert complete, filter mesh 100 micron, for size DN 100	**AF76S-100A**
Filter insert complete, filter mesh 200 micron, for size DN 65	**AF76S-65D**
Filter insert complete, filter mesh 200 micron, for size DN 80	**AF76S-80D**
Filter insert complete, filter mesh 200 micron, for size DN 100	**AF76S-100D**
Filter insert complete, filter mesh 50 micron, for size DN 65	**AF76S-65C**
Filter insert complete, filter mesh 50 micron, for size DN 80	**AF76S-80C**
Filter insert complete, filter mesh 50 micron, for size DN 100	**AF76S-100C**
Ball valve	**5622100**

Brass Y-strainer with threaded female connections, FY30

FY30 strainers are used in commercial and industrial applications within the limits of their specifications. They protect systems against malfunction and corrosion damage resulting from the ingress of foreign bodies such as welding beads, sealing materials, metal cuttings and rust etc. This extends the life of the downstream system and prevents early failure.

Media	Water, oil, compressed air, steam and other non-aggressive media
Body material	brass, dezincification resistant
Port connection type	internal threads
Max. media temperature	160 °C
Static pressure	PN16/PN6
Mounting position	horizontal or vertical
Additional description	• Low flow resistance because of good dynamic flow design of body • Brass and stainless steel construction gives good corrosion resistance • Large strainer mesh surface area provides high dirt acceptance capacity • Sieve carrier ensures good sealing within housing • Easy removal of sieve for cleaning

With double sieve, mesh size approximately 0.35 mm

Port diameter inch	DN size mm	Integral filter mm	Type
R 3/8	10	0,35	**FY30-3/8A**
R 1/2	15	0,35	**FY30-1/2A**
R 3/4	20	0,35	**FY30-3/4A**
R 1	25	0,35	**FY30-1A**
R 1 1/4	32	0,35	**FY30-11/4A**
R 1 1/2	40	0,35	**FY30-11/2A**
R 2	50	0,35	**FY30-2A**

With double sieve, mesh size approximately 0.18 mm

Port diameter inch	DN size mm	Integral filter mm	Type
R 3/8	10	0,18	**FY30-3/8B**
R 1/2	15	0,18	**FY30-1/2B**
R 3/4	20	0,18	**FY30-3/4B**
R 1	25	0,18	**FY30-1B**
R 1 1/4	32	0,18	**FY30-11/4B**
R 1 1/2	40	0,18	**FY30-11/2B**
R 2	50	0,18	**FY30-2B**

Spare Parts

Replacement sieve, mesh size 0,35 mm, for size R 3/8	**ES30-3/8A**
Replacement sieve, mesh size 0,35 mm, for size R 1/2	**ES30-1/2A**
Replacement sieve, mesh size 0,35 mm, for size R 3/4	**ES30-3/4A**
Replacement sieve, mesh size 0,35 mm, for size R 1	**ES30-1A**
Replacement sieve, mesh size 0,35 mm, for size R 1 1/4	**ES30-11/4A**
Replacement sieve, mesh size 0,35 mm, for size R 1 1/2	**ES30-11/2A**
Replacement sieve, mesh size 0,35 mm, for size R 2	**ES30-2A**

Replacement sieve, mesh size 0,18 mm, for size R 3/8	**ES30-3/8B**
Replacement sieve, mesh size 0,18 mm, for size R 1/2	**ES30-1/2B**
Replacement sieve, mesh size 0,18 mm, for size R 3/4	**ES30-3/4B**
Replacement sieve, mesh size 0,18 mm, for size R 1	**ES30-1B**
Replacement sieve, mesh size 0,18 mm, for size R 1 1/4	**ES30-11/4B**
Replacement sieve, mesh size 0,18 mm, for size R 1 1/2	**ES30-11/2B**
Replacement sieve, mesh size 0,18 mm, for size R 2	**ES30-2B**

Red bronze Y-strainer with threaded female connections, FY32

FY32 strainers are used in commercial and industrial applications within the limits of their specifications. They protect systems against malfunction and corrosion damage resulting from the ingress of foreign bodies such as welding beads, sealing materials, metal cuttings and rust etc. This extends the life of the downstream system and prevents early failure.

Media	Water, oil, compressed air, steam and other non-aggressive media
Body material	red bronze RG5
Port connection type	internal threads
Max. media temperature	150 °C
Static pressure	PN16
Integral filter	0,25 mm
Mounting position	horizontal or vertical
Additional description	• Low flow resistance because of good dynamic flow design of body • Brass and stainless steel construction gives good corrosion resistance • Large strainer mesh surface area provides high dirt acceptance capacity • Sieve carrier ensures good sealing within housing • Easy removal of sieve for cleaning

With double sieve, mesh size approximately 0,25 mm

Port diameter inch	DN size mm	Type
1/4	8	**FY32-1/4C**
3/8	10	**FY32-3/8C**
1/2	15	**FY32-1/2C**
3/4	20	**FY32-3/4C**
1	25	**FY32-1C**
1 1/4	32	**FY32-11/4C**
1 1/2	40	**FY32-11/2C**
2	50	**FY32-2C**

Spare Parts

Replacement sieve with sealing ring, mesh size 0,25 mm, for sizes R 1/4 + R 3/8	**ES32-3/8C**
Replacement sieve with sealing ring, mesh size 0,25 mm, for size R 1/2	**ES32-1/2C**
Replacement sieve with sealing ring, mesh size 0,25 mm, for size R 3/4	**ES32-3/4C**
Replacement sieve with sealing ring, mesh size 0,25 mm, for size R 1	**ES32-1C**
Replacement sieve with sealing ring, mesh size 0,25 mm, for size R 1 1/4	**ES32-11/4C**
Replacement sieve with sealing ring, mesh size 0,25 mm, for size R 1 1/2	**ES32-11/2C**
Replacement sieve with sealing ring, mesh size 0,25 mm, for size R 2	**ES32-2C**

Grey cast iron Y-strainer with flange connections, FY69P

FY69P strainers are used in commercial and industrial applications, as well as for central water supply systems within the limits of their specifications. They protect systems against malfunction and corrosion damage resulting from the ingress of foreign bodies such as welding beads, sealing materials, metal cuttings and rust etc. This extends the life of the downstream system and prevents early failure.

Media	Water, oil, compressed air and other non-aggressive media up to 40,0 bar; steam up to 4,0 bar
Body material	cast iron GG25
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	150 °C
Static pressure	PN16
Integral filter	0,5 mm
Mounting position	horizontal or vertical
Additional description	• Low flow resistance because of good dynamic flow design of body • Powder coated inside and outside, which is toxicologically and physiologically safe • Stainless steel construction gives double sieve good corrosion resistance • Large strainer mesh surface area provides high dirt acceptance capacity • Dirt particles or condensate in compressed air systems can be flushed out with blanking plug removed

With double sieve, mesh size approximately 0,5 mm

DN size mm	Type
15	**FY69P-15A**
20	**FY69P-20A**
25	**FY69P-25A**
32	**FY69P-32A**
40	**FY69P-40A**
50	**FY69P-50A**
65	**FY69P-65A**
80	**FY69P-80A**
100	**FY69P-100A**
125	**FY69P-125A**
150	**FY69P-150A**
200	**FY69P-200A**

Spare Parts

Replacement sieve, mesh size 0,5 mm, for size DN 15	**ES69Y-15**
Replacement sieve, mesh size 0,5 mm, for size DN 20	**ES69Y-20**
Replacement sieve, mesh size 0,5 mm, for size DN 25	**ES69Y-25**
Replacement sieve, mesh size 0,5 mm, for size DN 32	**ES69Y-32**
Replacement sieve, mesh size 0,5 mm, for size DN 40	**ES69Y-40**
Replacement sieve, mesh size 0,5 mm, for size DN 50	**ES69Y-50**
Replacement sieve, mesh size 0,5 mm, for size DN 65	**ES69Y-65**
Replacement sieve, mesh size 0,5 mm, for size DN 80	**ES69Y-80**
Replacement sieve, mesh size 0,5 mm, for size DN 100	**ES69Y-100**
Replacement sieve, mesh size 0,5 mm, for size DN 125	**ES69Y-125**
Replacement sieve, mesh size 0,5 mm, for size DN 150	**ES69Y-150**
Replacement sieve, mesh size 0,5 mm, for size DN 200	**ES69Y-200**

Cast steel Y-strainer with flange connections, FY71P

FY71P strainers are used in commercial and industrial applications, as well as for central water supply systems within the limits of their specifications. They protect systems against malfunction and corrosion damage resulting from the ingress of foreign bodies such as welding beads, sealing materials, metal cuttings and rust etc. This extends the life of the downstream system and prevents early failure.

Media	Water, oil and compressed air up to 40,0 bar and for steam corresponding to DIN 2401, pressure rating PN 40
Body material	cast steel
Body finishing	powder coating
Port connection type	flanges
Static pressure	PN40
Integral filter	0,5 mm
Mounting position	horizontal or vertical
Additional description	• Low flow resistance because of good dynamic flow design of body • Powder coated inside and outside, which is toxicologically and physiologically safe • Stainless steel construction gives triple sieve good corrosion resistance • Large strainer mesh surface area provides high dirt acceptance capacity • Dirt particles or condensate in compressed air systems can be flushed out with blanking plug removed

With triple sieve, mesh size approximately 0,5 mm

DN size mm	Type
15	**FY71P-15B**
20	**FY71P-20B**
25	**FY71P-25B**
32	**FY71P-32B**
40	**FY71P-40B**
50	**FY71P-50B**
65	**FY71P-65B**
80	**FY71P-80B**
100	**FY71P-100B**
125	**FY71P-125B**
150	**FY71P-150B**

Spare Parts

Replacement sieve, mesh size 0,5 mm, for size DN 15	**ES71Y-15**
Replacement sieve, mesh size 0,5 mm, for size DN 20	**ES71Y-20**
Replacement sieve, mesh size 0,5 mm, for size DN 25	**ES71Y-25**
Replacement sieve, mesh size 0,5 mm, for size DN 32	**ES71Y-32**
Replacement sieve, mesh size 0,5 mm, for size DN 40	**ES71Y-40**
Replacement sieve, mesh size 0,5 mm, for size DN 50	**ES71Y-50**
Replacement sieve, mesh size 0,5 mm, for size DN 65	**ES71Y-65**
Replacement sieve, mesh size 0,5 mm, for size DN 80	**ES71Y-80**
Replacement sieve, mesh size 0,5 mm, for size DN 100	**ES71Y-100**
Replacement sieve, mesh size 0,5 mm, for size DN 125	**ES71Y-125**
Replacement sieve, mesh size 0,5 mm, for size DN 150	**ES71Y-150**

Combination water supply unit, HS10S

HS10S combination water supply units integrate a non return valve with test point, reverse rinsing fine filter, pressure reducing valve and shutoff valve in one appliance. They ensure a continuous supply of filtered water. The fine filter stops the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The non-return valve protects the mains water system against back pressure, back flow and back syphonage of health threatening liquids. The pressure reducing valve prevents overpressure damage and reduces water consumption. All individual units correspond to the requirements of current DIN/DVGW specifications. Technical features of each unit also apply to the combination assembly.

Approvals	DIN/DVGW-approved for connection sizes 11/2" and 2". Requested for connection sizes 1/2" to 11/4"
Media	Water
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Integral filter	100 micron
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Balanced seat design	yes
Integrated non-return device	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal
Additional description	DIN/DVGW-approved • Double Spin Technology for connection sizes 1/2" to 11/4" - Cartridge with external rotor enabling simultaneous cleaning in lower and upper filter areas, visual function check possible • Especially compact because pressure reducing valve, fine filter, non return valve and shutoff valve are combined in one unit • Filtered water supplied even during reverse rinsing • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates when next manual reverse rinsing is due • Automatic reverse rinsing actuator with bayonet connector can be retrofitted

Threaded male connections, filter mesh size 100 micron

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
1/2	15	40	PN16	2,7	•	**HS10S-1/2AA**
3/4	20	40	PN16	3,2	•	**HS10S-3/4AA**
1	25	40	PN16	7,6	•	**HS10S-1AA**
1 1/4	32	40	PN16	8,9	•	**HS10S-11/4AA**
1 1/2	40	40	PN16	12,6	•	**HS10S-11/2AA**
2	50	40	PN16	13	•	**HS10S-2AA**

Red bronze filter bowl, threaded male connections, filter mesh size 100 micron

Port diameter inch	DN size mm	Max. media temperature °C	Static pressure	Flow capacity Kvs	Transparant strainer chamber	Type
1/2	15	70	PN25	2,7	–	**HS10S-1/2AAM**
3/4	20	70	PN25	3,2	–	**HS10S-3/4AAM**
1	25	70	PN25	7,6	–	**HS10S-1AAM**
1 1/4	32	70	PN25	8,9	–	**HS10S-11/4AAM**
1 1/2	40	70	PN25	12,6	–	**HS10S-11/2AAM**
2	50	70	PN25	13	–	**HS10S-2AAM**

Accessories

Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Filter insert complete. Filter meshes 20 micron. Connection size 1/2" - 3/4"	**AF11S-1/2B**
Filter insert complete. Filter meshes 50 micron. Connection size 1/2" - 3/4"	**AF11S-1/2C**
Filter insert complete. Filter meshes 200 micron. Connection size 1/2" - 3/4"	**AF11S-1/2D**
Filter insert complete. Filter meshes 300 micron. Connection size 1/2" - 3/4"	**AF11S-1/2E**
Filter insert complete. Filter meshes 500 micron. Connection size 1/2" - 3/4"	**AF11S-1/2F**
Filter insert complete. Filter meshes 20 micron. Connection size 1" - 11/4"	**AF11S-1B**
Filter insert complete. Filter meshes 50 micron. Connection size 1" - 11/4"	**AF11S-1C**
Filter insert complete. Filter meshes 200 micron. Connection size 1" - 11/4"	**AF11S-1D**
Filter insert complete. Filter meshes 300 micron. Connection size 1" - 11/4"	**AF11S-1E**
Filter insert complete. Filter meshes 500 micron. Connection size 1" - 11/4"	**AF11S-1F**
Filter insert complete. Filter meshes 20 micron. Connection size 11/2" - 2"	**AF11S-11/2B**
Filter insert complete. Filter meshes 50 micron. Connection size 11/2" - 2"	**AF11S-11/2C**
Filter insert complete. Filter meshes 200 micron. Connection size 11/2" - 2"	**AF11S-11/2D**
Filter insert complete. Filter meshes 300 micron. Connection size 11/2" - 2"	**AF11S-11/2E**
Filter insert complete. Filter meshes 500 micron. Connection size 11/2" - 2"	**AF11S-11/2F**
Filter insert complete, filter mesh size 20 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2B**
Filter insert complete, filter mesh size 50 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2C**
Filter insert complete, filter mesh size 200 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2D**
Filter insert complete, filter mesh size 300 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2E**
Filter insert complete, filter mesh size 500 micron. Connection size 1/2" - 3/4"	**AF11DS-1/2F**
Filter insert complete, filter mesh size 20 micron. Connection size 1" - 11/4"	**AF11DS-1B**
Filter insert complete, filter mesh size 50 micron. Connection size 1" - 11/4"	**AF11DS-1C**
Filter insert complete, filter mesh size 200 micron. Connection size 1" - 11/4"	**AF11DS-1D**
Filter insert complete, filter mesh size 300 micron. Connection size 1" - 11/4"	**AF11DS-1E**
Filter insert complete, filter mesh size 500 micron. Connection size 1" - 11/4"	**AF11DS-1F**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 25 bar	**M38K-A25**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M38K-A16**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 10 bar	**M38K-A10**
Valve insert complete (without filter) for sizes R 1/2 + R 3/4	**D06FA-1/2**
Valve insert complete (without filter) for sizes R 1 + R 1 1/4	**D06FA-1A**
Valve insert complete (without filter) for sizes R 1 1/2 + R 2	**D06FA-11/2**
Filter insert complete, filter mesh size 100 micron, for sizes R 1/2 - R 3/4	**AF11S-1/2A**
Filter insert complete, filter mesh size 100 micron, for sizes R 1 - R 1 1/4	**AF11S-1A**
Filter insert complete, filter mesh size 100 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2A**
Filter insert complete for filters with Double Spin Technology, filter mesh size 100 micron, for sizes R 1/2 - R 3/4	**AF11DS-1/2A**
Filter insert complete for filters with Double Spin Technology, filter mesh size 100 micron, for sizes R 1	**AF11DS-1A**
Clear filter bowl complete for sizes R 1/2 - R 1 1/4	**KF11S-1A**
Clear filter bowl complete for sizes R 1 1/2 - R 2	**KF11S-11/2A**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure, for R 1/2 - R 1 1/4	**FT09RS-1A**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure, for R 1 1/2 + R 2	**FT09RS-11/2A**
Ball valve complete	**KH11S-1A**
Drain connector	**AA76-1/2A**
Double ring wrench for removal of spring bonnet and filter bowl, for R 1/2 + R 3/4	**ZR10K-3/4**
Double ring wrench for removal of spring bonnet and filter bowl, for R 1 + R 1 1/4	**ZR10K-1**
Double ring wrench for removal of spring bonnet and filter bowl, for R 1 1/2 + R 2	**ZR10K-11/2**

Fully automatic combination water supply unit with automatic reverse rinsing actuator, HS74CA

HS74CA combination water supply units integrate pressure reducing valve, reverse rinsing fine filter, non-return valve, and automatic reverse rinsing actuator in one appliance. Therefore, these units comprise all armatures needed for private water supply systems and ensure continuous supply of filtered water. The pressure reducing valve prevents overpressure damage and reduces water consumption. The fine filter stops the ingress of foreign bodies. The non-return valve protects the mains water system. The automatic reverse rinsing actuator operates with batteries, therefore, there is no need for a bus bar in the area of the water supply. It is responsible for the fully automatic cleaning of the fine filter. All individual units correspond to the requirements of current DIN/DVGW specifications.

Approvals	DIN/DVGW for filter combination FK74C and for non-return valve RV277
Media	water
Body material	synthetic material
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	30 °C
Static pressure	PN16
Pressure setpoint range	1,5 ... 6 bar
Transparant strainer chamber	yes

Balanced seat design	yes
Integrated non-return device	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	• Inlet pressure compensation - fluctuating inlet pressures do not influence outlet pressure • Battery-operated automatic reverse rinsing actuator, acoustic signal when battery is running low; reverse rinsing can also be activated manually • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Filtered water supplied even during reverse rinsing • Owing to its short construction length it is also suitable for limited space

Filter mesh size 100 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	100	**HS74CA-3/4AA**
R 1	25	6	100	**HS74CA-1AA**
R 1 1/4	32	6,5	100	**HS74CA-11/4AA**

Filter mesh size 50 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	50	**HS74CA-3/4AC**
R 1	25	6	50	**HS74CA-1AC**
R 1 1/4	32	6,5	50	**HS74CA-11/4AC**

Filter mesh size 200 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	200	**HS74CA-3/4AD**
R 1	25	6	200	**HS74CA-1AD**
R 1 1/4	32	6,5	200	**HS74CA-11/4AD**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Valve insert complete	**D06FA-1B**
Filter insert complete, filter mesh size 100 micron	**AF74-1A**
Filter insert complete, filter mesh size 50 micron	**AF74-1C**
Filter insert complete, filter mesh size 200 micron	**AF74-1D**
Clear filter bowl complete	**KF74-1A**
Non-return valve cartridge, for R 3/4 inch	**2110200**
Non-return valve cartridge, for R 1 inch	**2110400**
Non-return valve cartridge, for R 1 1/4 inch	**2110500**
Automatic reverse rinsing actuator	**Z74S-A**

Reverse rinsing filter combination with rotatable connector flange, FK74C

The FK74C filter combinations comprise reverse rinsing filter and pressure reducing valve in one appliance. They ensure a continuous supply of filtered water. The fine filter stops the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The pressure reducing valve prevents pressure damage and reduces water consumption. FK 74 C filter combinations are fitted in systems where a pressure reducing valve is required. Both horizontal and vertical installation is possible.

Approvals	DVGW approved
Media	Water
Body material	synthetic material
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	30 °C
Static pressure	PN16
Pressure setpoint range	1,5 ... 6 bar
Transparant strainer chamber	yes
Balanced seat design	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	• Inlet pressure compensation - fluctuating inlet pressures do not influence outlet pressure • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates time when next reverse rinsing is due • Bayonet connection enables simple retrofitting of reverse rinsing actuator • Filter and pressure reducing valve insert fully interchangeable

Threaded male connections, mesh size 100 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	100	**FK74C-3/4AA**
R 1	25	6	100	**FK74C-1AA**
R 1 1/4	32	6,5	100	**FK74C-11/4AA**

Threaded male connections, mesh size 50 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	50	**FK74C-3/4AC**
R 1	25	6	50	**FK74C-1AC**
R 1 1/4	32	6,5	50	**FK74C-11/4AC**

Threaded male connections, mesh size 200 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
R 3/4	20	5,5	200	**FK74C-3/4AD**
R 1	25	6	200	**FK74C-1AD**
R 1 1/4	32	6,5	200	**FK74C-11/4AD**

Accessories

Double ring wrench for removal of spring bonnet and filter bowl	**ZR10K-3/4**
Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Inlet check valve, connection size 3/4"	**RV277-3/4A**
Inlet check valve, connection size 1"	**RV277-1A**
Inlet check valve, connection size 11/4"	**RV277-11/4A**
Connector piece for conversion of the fine filters with rotatable connector pieces (1 1/4" and 1 1/2") into retrofit filter combinations (Converts 63 mm hole centres to 45 mm hole centres)	**ZA76C**
Threaded male connection, connection size 3/4"	**VST06-3/4A**
Threaded male connection, connection size 1"	**VST06-1A**
Threaded male connection, connection size 11/4"	**VST06-11/4A**
Soldered union connection, connection size 3/4"	**VST06-3/4B**
Soldered union connection, connection size 1"	**VST06-1B**
Soldered union connection, connection size 11/4"	**VST06-11/4B**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Valve insert complete (without filter)	**D06FA-1B**
Filter insert complete, filter mesh size 100 micron	**AF74-1A**
Filter insert complete, filter mesh size 50 micron	**AF74-1C**
Filter insert complete, filter mesh size 200 micron	**AF74-1D**
Clear filter bowl complete	**KF74-1A**
Double ring wrench for removing filter bowl	**ZR10K-3/4**

Retrofit reverse rinsing filter combination for connector flange, FKN74C

The FKN74C filter combinations comprise reverse rinsing filters and pressure reducing valves in one appliance. They ensure a continuous supply of filtered water. The fine filter prevents the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The pressure reducing valve prevents pressure damage and reduces water consumption. FKN74C filter combinations are especially suited for retro-fitting to or modernisation of existing water supply systems to buildings where an existing filter is to be replaced. On new installations the DA74C rotatable connector piece should be used.

Approvals	DIN/DVGW in conjunction with rotatable connector piece DA74C
Media	Water
Body material	synthetic material
Spring bonnet material	synthetic material
Max. media temperature	30 °C
Static pressure	PN16
Flow capacity Kvs	6
Pressure setpoint range	1,5 ... 6 bar
Transparant strainer chamber	yes
Balanced seat design	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	• Integral pressure reducing valve with balanced seat • Inlet pressure compensation - fluctuating inlet pressures do not influence outlet pressure • Patented reverse rinsing system fast and thorough cleaning of the filter with small amount of water • Memory ring indicates time when next reverse rinsing is due • Bayonet connection enables simple retro-fitting of reverse rinsing actuator

Filter mesh size 100 micron

Integral filter micron	Type
100	**FKN74C-1A**

Filter mesh size 50 micron

Integral filter micron	Type
50	**FKN74C-1C**

Accessories

Rotatable connector piece in connection size R 3/4	**DA74C-3/4A**
Rotatable connector piece in connection size R 1	**DA74C-1A**
Rotatable connector piece in connection size R 1 1/4	**DA74C-11/4A**
Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Valve insert complete (without filter)	**D06FA-1B**
Filter insert complete, filter mesh size 100 micron	**AF74-1A**
Filter insert complete, filter mesh size 50 micron	**AF74-1C**
Filter insert complete, filter mesh size 200 micron	**AF74-1D**
Clear filter bowl complete	**KF74-1A**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR10K-3/4**

Reverse rinsing filter combination with rotatable connector flange, FK76CS

The FK76CS filter combinations comprise reverse rinsing filter and pressure reducing valve in one appliance. They ensure a continuous supply of filtered water. The fine filter stops the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The pressure reducing valve prevents pressure damage and reduces water consumption. The integrated appliances correspond to the requirements of the current DIN/DVGW specification. Features of the individual components also apply for the combination unit. FK76CS filter combinations are especially suited for the retrofitting and modernisation of existing water supply systems in buildings. The rotatable connector piece permits installation even where space is limited. Installation can be in either horizontal or vertical pipework.

Approvals	DVGW-approval requested
Media	Water
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	40 °C
Static pressure	PN16
Integral filter	100 micron
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	yes
Balanced seat design	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	Double Spin Technology - Cartridge with external rotor enabling simultaneous cleaning in lower and upper filter areas, visual function check possible • Balanced seat valve • Filtered water supplied even during reverse rinsing • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates when next manual reverse rinsing is due • Automatic reverse rinsing actuator with bayonet connector can be retrofitted

Threaded male connections, filter mesh size 100 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Type
3/4	20	5,4	**FK76CS-3/4AA**
1	25	6	**FK76CS-1AA**
1 1/4	32	9	**FK76CS-114AA**

Accessories

Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure	**FT09RS-1A**
Intermediate connector for conversion of the fine filters with rotatable connector pieces (1 1/4" and 1 1/2") into retrofit FKN76CS filter combinations (Converts 63 mm hole centres to 45 mm hole centres)	**ZA76C**
Inlet check valve. Connection size 3/4"	**RV277-3/4A**
Inlet check valve. Connection size 1"	**RV277-1A**
Inlet check valve. Connection size 11/4"	**RV277-11/4A**
Threaded male connection, connection size 3/4"	**VST06-3/4A**
Threaded male connection, connection size 1"	**VST06-1A**
Threaded male connection, connection size 11/4"	**VST06-11/4A**
Solder union connection, connection size 3/4"	**VST06-3/4B**
Solder union connection, connection size 1"	**VST06-1B**
Solder union connection, connection size 11/4"	**VST06-11/4B**
Filter insert complete. Available with filter meshes 100 micron, for filters with Double Spin Technology	**AF11DS-1A**

Spare Parts

Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Filter insert complete for filters with double spin technology, filter mesh size 100 micron	**AF11DS-1A**
Valve insert complete (without filter)	**D06FA-1A**
Clear filter bowl complete	**KF11S-1A**
Ball valve complete	**KH11S-1A**
Drain connection	**AA76-1/2A**
Double ring wrench for removing filter bowl and spring bonnet	**ZR10K-1**

Retrofit reverse rinsing filter combination for connector flange, FKN76CS

The FKN76CS filter combinations comprise reverse rinsing filter and pressure reducing valve in one appliance. They ensure a continuous supply of filtered water. The fine filter stops the ingress of foreign bodies, for example rust particles, strands of hemp and grains of sand. The pressure reducing valve prevents pressure damage and reduces water consumption. The integrated appliances correspond to the requirements of the current DIN/DVGW specification. Features of the individual components also apply for the combination unit. FKN76CS filter combinations are especially suited for the retrofitting and modernisation of existing water supply systems in buildings where an existing filter is to be repalaced. The existing connectors can be reused. Where connections dimensions are different, an adapter can be used.

Approvals	DVGW-approval requested
Media	Water
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port diameter	1 inch
DN size	25 mm
Max. media temperature	40 °C
Static pressure	PN16

Flow capacity Kvs	6
Integral filter	100 micron
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	yes
Balanced seat design	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal or vertical
Additional description	• Double Spin Technology - Cartridge with external rotor enabling simultaneous cleaning in lower and upper filter areas, visual function check possible • Balanced seat valve • Filtered water supplied even during reverse rinsing • Patented reverse rinsing system - fast and thorough cleaning of the filter with small amount of water • Memory ring indicates when next manual reverse rinsing is due • Automatic reverse rinsing actuator with bayonet connector can be retrofitted

Filter mesh size 100 micron

	Type
	FKN76CS-1A
Accessories	
Rotatable connector piece in connection size R 3/4	**DA74C-3/4A**
Rotatable connector piece in connection size R 1	**DA74C-1A**
Rotatable connector piece in connection size R 1 1/4	**DA74C-11/4A**
Intermediate connector for conversion of fine filters with rotatable connector pieces (R 1 1/4 and R 1 1/2) e.g. Cillit type 77 into retrofit FKN 76 CS filter combinations	**ZA76C-11/4**
Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure	**FT09RS-1A**
Inlet check valve, connection size 3/4"	**RV277-3/4A**
Inlet check valve, connection size 1"	**RV277-1A**
Inlet check valve, connection size 11/4"	**RV277-11/4A**
Spare Parts	
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	**M07K-A16**
Filter insert complete for filters with double spin technology, filter mesh size 100 micron	**AF11DS-1A**
Valve insert complete (without filter)	**D06FA-1A**
Clear filter bowl complete	**KF11S-1A**
Ball valve complete	**KH11S-1A**
Drain connection	**AA76-1/2A**
Double ring wrench for removing filter bowl and spring bonnet	**ZR10K-1**

Rinseable filter combination, MiniPlus-FK06

FK06 rinsable filter combinations ensure a continuous supply of filtered water. They prevent the ingress of foreign matter such as particles of rust, strands of hemp and grains of sand. The accumulation of foreign particles in the base of the filter bowl can be easily removed by reverse rinsing. The pressure reducing valve prevents overpressure damage and reduces the water consumption. The appliances correspond to DIN/DVGW requirements. The compact overall dimensions enable the filter combination to be fitted even where space is limited.

Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Port connection type	external threads
Max. media temperature	40 °C
Static pressure	PN16
Integral filter	100 micron
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Balanced seat design	yes
Mounting position	horizontal
Additional description	• A turn on the adjuster knob is all that is required for setting • The setting is directly readable from the setting indicator • Filtered water supply maintained even during rinsing • Inlet pressure balancing - fluctuating inlet pressure does not influence outlet pressure • Filter and complete filter bowl are replaceable

Threaded male connections, filter mesh size 100 micron

Port diameter inch	DN size mm	Flow capacity Kvs	Transparant strainer chamber	Type
1/2	15	2,5	•	**FK06-1/2AA**
3/4	20	2,9	•	**FK06-3/4AA**
1	25	6	•	**FK06-1AA**
1 1/4	32	6,2	•	**FK06-11/4AA**

Threaded male connections, filter mesh size 100 micron, filter bowl of dezincification resistant brass

Port diameter inch	DN size mm	Flow capacity Kvs	Transparant strainer chamber	Type
1/2	15	2,5	–	**FK06-1/2AAM**
3/4	20	2,9	–	**FK06-3/4AAM**
1	25	6	–	**FK06-1AAM**
1 1/4	32	6,2	–	**FK06-11/4AAM**

Accessories

Double ring wrench for removing of spring bonnet	ZR06K
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 4 bar	M07M-A4
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 10 bar	M07M-A10
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 16 bar	M07M-A16
Inlet check valve	_RV277

Spare Parts

Valve cartridge complete (without filter insert) for sizes R 1/2 + R 3/4	D06FA-1/2
Valve cartridge complete (without filter insert) for size R 1 + R 1 1/4	D06FA-1B
Exchange filter insert complete for size R 1/2 + R 3/4	AS06-1/2A
Exchange filter insert complete for sizes R 1 + R 1 1/4	AS06-1A
Clear filter bowl complete with filter and carrier body, for size R 1/2 + R3/4	KF06-1/2A
Clear filter bowl complete with filter and carrier body, for size R 1 + R 1 1/4	KF06-1A
Double ring wrench for removing of filter bowl	ZR06F

Reverse rinsing filter combination, FK09S

The FK09S reverse-rinsable filter combination integrates a fine filter and a pressure reducing valve in one appliance. It guarantees a continuous filtered water supply. The fine filter prevents the entry of foreign matter, such as rust particles, hemp remains and grains of sand. The pressure reducing valve prevents over pressure damage, minimises flow noises and reduces water consumption. The integrated appliances comply with DIN/DVGW requirements. Features of the separate individual units also apply for the filter combination.

Media	Water
Body material	brass, dezincification resistant
Spring bonnet material	synthetic material
Max. media temperature	40 °C
Static pressure	PN16
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	yes
Balanced seat design	yes
Reverse rinsing with filtered water	yes
Mounting position	horizontal
Additional description	• Balanced single-seat valve • Supply of filtered water is maintained during reverse rinsing cycle • Patented reverse rinsing system - fast and thorough cleaning of the filter with minimum water consumption • Memory-ring indicates when the next manual reverse rinsing cycle is due • Automatic reverse rinsing actuator with bayonet connector can be retrofitted

Threaded male connections, filter mesh size 100 micron

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
external threads	1/2	15	2,5	100	**FK09S-1/2AA**
external threads	3/4	20	3	100	**FK09S-3/4AA**
external threads	1	25	5,8	100	**FK09S-1AA**
external threads	1 1/4	32	5,9	100	**FK09S-11/4AA**
external threads	1 1/2	40	12	100	**FK09S-11/2AA**
external threads	2	50	11,6	100	**FK09S-2AA**

Threaded male connections, filter mesh size 50 micron

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
external threads	1/2	15	2,5	50	**FK09S-1/2AC**
external threads	3/4	20	3	50	**FK09S-3/4AC**
external threads	1	25	5,8	50	**FK09S-1AC**
external threads	1 1/4	32	5,9	50	**FK09S-11/4AC**
external threads	1 1/2	40	12	50	**FK09S-11/2AC**
external threads	2	50	11,6	50	**FK09S-2AC**

Soldered connections, filter mesh size 100 micron

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
soldering	1/2	15	2,5	50	**FK09S-1/2BA**
soldering	3/4	20	3	50	**FK09S-3/4BA**
soldering	1	25	5,8	50	**FK09S-1BA**
soldering	1 1/4	32	5,9	50	**FK09S-11/4BA**
soldering	1 1/2	40	12	50	**FK09S-11/2BA**
soldering	2	50	11,6	50	**FK09S-2BA**

Without connections, filter mesh size 100 micron, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Integral filter micron	Type
–	1/2	15	2,5	50	**FK09S-1/2EA**
–	3/4	20	3	50	**FK09S-3/4EA**
–	1	25	5,8	50	**FK09S-1EA**
–	1 1/4	32	5,9	50	**FK09S-11/4EA**
–	1 1/2	40	12	50	**FK09S-11/2EA**
–	2	50	11,6	50	**FK09S-2EA**

Accessories

Automatic reverse rinsing actuator for automatic filter cleaning, 230 V, 50/60 Hz, 10 W, IP 55, with electrical plug	**Z11S-A**
Automatic reverse rinsing actuator for automatic filter cleaning, 24 V, 50/60 Hz, 10 W, IP 55, without electrical plug	**Z11S-B**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure, for R 1/2 - R 1 1/4	**FT09RS-1A**
Red bronze filter bowl for temperatures up to 70 °C and up to 25 bar operating pressure, for R 1 1/2 + R 2	**FT09RS-11/2A**
Inlet check valve, connection size 1/2	**RV277-1/2A**
Inlet check valve, connection size 3/4"	**RV277-3/4A**
Inlet check valve, connection size 1"	**RV277-1A**
Inlet check valve, connection size 11/4"	**RV277-11/4A**
Inlet check valve, connection size 11/2"	**RV277-11/2A**
Inlet check valve, connection size 2"	**RV277-2A**
Threaded male connection, connection size 1/2"	**VST06-1/2A**
Threaded male connection, connection size 3/4"	**VST06-3/4A**
Threaded male connection, connection size 1"	**VST06-1A**
Threaded male connection, connection size 11/4"	**VST06-11/4A**
Threaded male connection, connection size 11/2"	**VST06-11/2A**
Threaded male connection, connection size 2"	**VST06-2A**
Solder union connection, connection size 1/2"	**VST06-1/2B**
Solder union connection, connection size 3/4"	**VST06-3/4B**
Solder union connection, connection size 1"	**VST06-1B**
Solder union connection, connection size 11/4"	**VST06-11/4B**
Solder union connection, connection size 11/2"	**VST06-11/2B**
Solder union connection, connection size 2"	**VST06-2B**

Spare Parts

Valve insert complete (without filter) for sizes R 1/2 + R 3/4	**D06FA-1/2**
Valve insert complete (without filter) for sizes R 1 + R 1 1/4	**D06FA-1B**
Valve insert complete (without filter) for sizes R 1 1/2 + R 2	**D06FA-11/2**
Pressure gauge with housing diameter 50 mm, connection thread G 1/4, range 0 - 10 bar	**M07M-A10**
Filter insert complete, filter mesh size 100 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1A**
Filter insert complete, filter mesh size 20 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1B**
Filter insert complete, filter mesh size 50 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1C**
Filter insert complete, filter mesh size 200 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1D**
Filter insert complete, filter mesh size 300 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1E**
Filter insert complete, filter mesh size 500 micron, for sizes R 1/2 - R 1 1/4	**AF11S-1F**
Filter insert complete, filter mesh size 100 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2A**
Filter insert complete, filter mesh size 20 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2B**
Filter insert complete, filter mesh size 50 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2C**
Filter insert complete, filter mesh size 200 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2D**
Filter insert complete, filter mesh size 300 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2E**
Filter insert complete, filter mesh size 500 micron, for sizes R 1 1/2 - R 2	**AF11S-11/2F**
Clear filter bowl complete for sizes R 1/2 - R 1 1/4	**KF11S-1A**
Clear filter bowl complete for sizes R 1 1/2 - R 2	**KF11S-11/2A**
Ball valve complete	**KH11S-1A**
Drain connection	**AA76-1/2A**
Double ring wrench for removal of spring bonnet and filter bowl, for R 1/2 - R 1 1/4	**ZR10K-1**
Double ring wrench for removal of spring bonnet and filter bowl, for R 1 1/2 + R 2	**ZR10K-11/2**

Backflow Preventers, Non-return Valves, residential/industrial

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Honeywell

Backflow preventer compact construction with threaded connectors, CA295

Backflow preventers are suitable for the protection of drinking water systems against back pressure, back flow and back syphonage. Fluids up to and including liquid category 3 to EN 1717 are protected.

Approvals	KIWA, BELGAQUA, NF (DN 15), tested to prEN 14367 (DN 15)
Media	Water
Application class (EN1717)	class 3
Body material	brass, dezincification resistant
Port connection type	external threads
Max. media temperature	65 °C
Static pressure	PN10
Minimum inlet pressure	1,5 bar
Mounting position	horizontal
Additional description	• Integral strainer • Compact construction • Easy access to all internal components • Low pressure loss and high flow rate performance • Triple security - two check valves and a discharge valve separate the backflow preventer into three pressure zones

Standard version with threaded connections

Port diameter inch	DN size mm	Type
1/2	15	**CA295-1/2A**
3/4	20	**CA295-3/4A**

Backflow preventer, BA195 miniBA

Backflow preventers of this type are suitable for the protection of drinking water systems against back pressure, back flow and back syphonage. They are used mainly for OEM-applications, but can also be used for commercial and industrial purposes within the scope of their specification. Fluids up to and including liquid category 4 to EN 1717 are protected.

Media	Water
Application class (EN1717)	class 4
Body material	brass, dezincification resistant
Port connection type	external threads
Port diameter	3/8 inch
Max. media temperature	65 °C
Static pressure	PN10
Minimum inlet pressure	1,5 bar
Mounting position	horizontal
Additional description	• Optimal protection of the drinking water supply network • Integral inlet strainer • Inlet check valve and discharge valve are combined in one cartridge • Minimal maintenance required, because the valve cartridge is completely replaceable • Optimized design prevents water stagnation • Compact construction • Low pressure loss and high flow rate • Triple security - two check valves and a discharge valve separate the backflow preventer into three pressure zones • Meets KTW recommendations for potable water

Standard version, with threaded connections

	Type
	BA195-3/8E

Accessories

Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	TK295
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	TKA295
Maintenance-set for BA195 type backflow preventers for use with Test kit TK295 resp. TKA295	WS195

Backflow preventer compact construction with threaded connectors, BA295

Backflow preventers of this type are suitable for the protection of drinking water systems against back pressure, back flow and back syphonage. They can be used for residential buildings, industrial and commercial purposes within the scope of their specification. Fluids up to and including liquid category 4 to EN 1717 are protected.

Approvals	• DIN/DVGW-approved for connection sizes 1/2" - 2" • SVGW-approved for connection sizes 1/2" and 11/4" • KIWA-approved for connection sizes 1/2" - 2" • ICIM-approved for connection size 1/2" • NF-approved for connection size 1/2" • Approved according to EN12729
Media	Water
Application class (EN1717)	class 4
Body material	red bronze RG5
Max. media temperature	65 °C
Static pressure	PN10
Minimum inlet pressure	1,5 bar
Mounting position	horizontal
Additional description	• Optimal protection of the drinking water supply network • Integral inlet strainer • Inlet check valve and discharge valve are combined in one cartridge • Minimal maintenance required, because the valve cartridge is completely replaceable • Optimized design prevents water stagnation • Compact construction • Easy access to all internal components • Low pressure loss and high flow rate • Triple security - two check valves and a discharge valve separate the backflow preventer into three pressure zones • Noise tested to class 2 • Meets KTW recommendations for potable water

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Standard version, with threaded connections

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Type
external threads	1/2	15	3	**BA295-1/2A**
external threads	3/4	20	3,5	**BA295-3/4A**
external threads	1	25	4	**BA295-1B**
external threads	1 1/4	32	8,7	**BA295-11/4B**
external threads	1 1/2	40	13,6	**BA295-11/2A**
external threads	2	50	21,2	**BA295-2A**

Standard version, without connection fitting

Port connection type	Port diameter inch	DN size mm	Flow capacity Kvs	Type
–	–	–	3	**BA295-1/2E**
–	–	–	3,5	**BA295-3/4E**
–	–	–	4	**BA295-1E**
–	–	–	8,7	**BA295-11/4E**
–	–	–	13,6	**BA295-11/2E**
–	–	–	21,2	**BA295-2E**

Accessories

Noise protected pressure reducing valve with setting scale.	**_D06F**
Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TK295**
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TKA295**
Fine filter, reverse rinsable	**_F76S**

Stainless Steel Backflow Preventer, BA295I

Backflow preventers of this type are suitable for the protection of drinking water systems against back pressure, back flow and back syphonage. They can be used for residential buildings, industrial and commercial purposes within the scope of their specification. Fluids up to and including liquid category 4 to EN 1717 are protected.

Media	Water
Application class (EN1717)	class 4
Body material	stainless steel
Port connection type	external threads
Max. media temperature	65 °C
Static pressure	PN10
Minimum inlet pressure	1,5 bar
Mounting position	horizontal
Additional description	• Stainless steel construction • Optimal protection of the drinking water supply network • Integral inlet strainer • Inlet check valve and discharge valve are combined in one cartridge • Minimal maintenance required, because the valve cartridge is completely replaceable • Optimized design prevents water stagnation • Easy access to all internal components • Low pressure loss and high flow rate • Triple security - two check valves and a discharge valve separate the backflow preventer into three pressure zones • Noise tested to class 2 • Meets KTW recommendations for potable water

Standard version, with threaded connections

Port diameter inch	DN size mm	Flow capacity Kvs	Type
1/2	15	3	**BA295I-1/2A**
3/4	20	3,5	**BA295I-3/4A**
1	25	4	**BA295I-1A**
1 1/4	32	8,7	**BA295I-11/4A**
1 1/2	40	13,6	**BA295I-11/2A**
2	50	21,2	**BA295I-2A**

Accessories

Noise protected pressure reducing valve with setting scale.	**_D06F**
Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TK295**
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TKA295**

Backflow preventer compact construction with threaded connectors, BA295C

Backflow preventers of this type are suitable for the protection of drinking water systems against back pressure, back flow and back syphonage. Fluids up to and including liquid category 4 to EN 1717 are protected. They can be used for residential buildings, industrial and commercial purposes within the scope of their specification.

Approvals	DIN/DVGW
Media	Water
Application class (EN1717)	class 4
Body material	red bronze RG5
Port connection type	external threads
Max. media temperature	65 °C
Static pressure	PN10
Minimum inlet pressure	1,5 bar
Mounting position	horizontal
Additional description	• Optimal protection of the drinking water supply network • Integral inlet strainer and Integral inlet and outlet shutoff valves • Inlet non-return check valve and discharge valve are combined in one cartridge • Minimal maintenance required, because the valve cartridge is completely replaceable • Optimized design prevents water stagnation

Standard version, with threaded connections

Port diameter inch	DN size mm	Type
1/2	15	**BA295C-1/2A**
3/4	20	**BA295C-3/4A**
1	25	**BA295C-1B**
1 1/4	32	**BA295C-11/4B**
1 1/2	40	**BA295C-11/2A**
2	50	**BA295C-2A**

Accessories

Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TK295**
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TKA295**

Backflow Preventers with flanges

Reduced-pressure-zone backflow preventer with flange connections, BA298-F

Backflow preventers of this type are suitable for the protection of drinking water systems against back pressure, back flow and back syphonage. Fluids up to and including liquid category 4 to EN 1717 are protected. They can be used for residential buildings, industrial and commercial purposes within the scope of their specification. The stainless steel housing provides increased corrosion protection.

Approvals	DVGW, SVGW, WRC
Media	Water
Application class (EN1717)	class 4
Body material	stainless steel
Port connection type	flanges
Max. media temperature	65 °C
Static pressure	PN10
Minimum inlet pressure	1,5 bar
Mounting position	horizontal
Additional description	• European approvals in all connection sizes • Optimum protection of the drinking water supply system • Easy access to all inner components • Stainless steel housing gives increased corrosion protection • Easy Maintenance due to optimized construction

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Standard version with PN 10 flanges

DN size mm	Flow capacity Kvs	Type
65	45	**BA298-65FA**
80	54	**BA298-80FA**
100	85	**BA298-100FA**
150	191	**BA298-150FA**

Accessories

Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TK295**
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TKA295**

Reduced-pressure-zone backflow preventer with flange connections - Industrial model, BA298I-F

Backflow preventers of this type are suitable for the protection of drinking water systems against back pressure, back flow and back syphonage. Fluids up to and including liquid category 4 to EN 1717 are protected. They can be used for residential buildings, industrial and commercial purposes within the scope of their specification. The stainless steel housing provides increased corrosion protection.

Approvals	DVGW, SVGW, WRC
Media	Water
Application class (EN1717)	class 4
Body material	stainless steel
Port connection type	flanges
Max. media temperature	65 °C
Static pressure	PN10
Minimum inlet pressure	1,5 bar
Mounting position	horizontal
Additional description	• European approvals in all connection sizes • Optimum protection of the drinking water supply system • Easy access to all inner components • Easy Maintenance due to optimized construction

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Standard version with PN 10 flanges

DN size mm	Flow capacity Kvs	Type
65	45	**BA298I-65FA**
80	54	**BA298I-80FA**
100	85	**BA298I-100FA**
150	191	**BA298I-150FA**

Accessories

Test kit. Electronic pressure measuring device with digital indicator, runs by a battery. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TK295**
Test kit. Analogue pressure measuring device with differential pressure display. With case and accessories, ideal for inspection and maintenance of backflow preventer type BA.	**TKA295**

Controllabel anti-pollution check valve with flanges, RV283P

Check valves are preferably for use as an independent means of preventing reverse water flow and are for installing directly after a water meter, but also for application in transfer pipes on district water supply systems. They can also be used for industrial, commercial and similar systems where back pressure, back flow and back syphonage must be prevented. The types of safety devices required for these purposes are specified in EN 1717.

Approvals	DIN/DVGW
Media	Water, compressed air and nitrogen in consideration of valid standards (e.g. DIN EN 12502)
Body material	cast iron GG25
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	70 °C
Mounting position	horizontal
Additional description	• Universal application • High temperature resistance • Creates no shock pressure loadings • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Disc, spring and lip seal ring are exchangeable

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With drilled flanges, PN 16, EPDM lip seal ring

DN size mm	Static pressure	Flow capacity Kvs	Type
40	PN16	39	**RV283P-40A**
50	PN16	62	**RV283P-50A**
65	PN16	110	**RV283P-65A**
80	PN16	170	**RV283P-80A**
100	PN16	240	**RV283P-100A**
125	PN16	420	**RV283P-125A**
150	PN16	760	**RV283P-150A**
200	PN16	1400	**RV283P-200A**
250	PN16	2100	**RV283P-250A**
300	PN16	3000	**RV283P-300A**

With drilled flanges, PN 10, EPDM lip seal ring

DN size mm	Static pressure	Flow capacity Kvs	Type
40	PN10	39	**RV283P-40B**
50	PN10	62	**RV283P-50B**
65	PN10	110	**RV283P-65B**
80	PN10	170	**RV283P-80B**
100	PN10	240	**RV283P-100B**
125	PN10	420	**RV283P-125B**
150	PN10	760	**RV283P-150B**
200	PN10	1400	**RV283P-200B**
250	PN10	2100	**RV283P-250B**
300	PN10	3000	**RV283P-300B**

Safety Valves/Groups, Thermostatic Mixing Valves, residential/industrial

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Honeywell

Diaphragm safety valve for closed water heaters, SM152

Type SM152 diaphragm-type safety valves are used to protect pressurised water heaters according to the requirements of DIN 4753, Part 1 and DIN 1988. In accordance with statutory requirements, the diaphragm safety valve is preset to the required fixed set pressure by the manufacturer and is sealed with an embossed security cap marked with the test badge and pressure rating to prevent unauthorised tampering with the setting. Subsequent alteration of the setting is not permitted and is impossible without destroying the security cap. The preset pressure is embossed on the security cap.

Approvals	TUEV approved, certified to Pressure Equipment Directive 97/23/EG, Reference No. CE 0035
Media	Water
Body material	brass
Spring bonnet material	synthetic material
Port connection type	internal threads
Max. media temperature	95 °C
Additional description	The valve size is defined by the size of the inlet connection. For closed water heaters in compliance with DIN 4753, Part 1 and EN 1717. Tested to TRD 721 for pressure range 1.0 bar to 10.0 bar.

- Tested to TRD 721
- Easy venting
- Replacement insert makes servicing simple
- Standardised discharge connection

Not chrome plated, set pressure 6,0 bar

Port diameter inch	DN size mm	Set pressure bar	Type
1/2	15	6	**SM152-1/2AA**
3/4	20	6	**SM152-3/4AA**
1	25	6	**SM152-1AA**
1 1/4	32	6	**SM152-11/4AA**

Not chrome plated, set pressure 8,0 bar

Port diameter inch	DN size mm	Set pressure bar	Type
1/2	15	8	**SM152-1/2AB**
3/4	20	8	**SM152-3/4AB**
1	25	8	**SM152-1AB**
1 1/4	32	8	**SM152-11/4AB**

Not chrome plated, set pressure 10,0 bar

Port diameter inch	DN size mm	Set pressure bar	Type
1/2	15	10	**SM152-1/2AC**
3/4	20	10	**SM152-3/4AC**
1	25	10	**SM152-1AC**
1 1/4	32	10	**SM152-11/4AC**

Chrome plated, set pressure 6,0 bar

Port diameter inch	DN size mm	Set pressure bar	Type
1/2	15	6	**SM152-1/2BA**

Chrome plated, set pressure 10,0 bar

Port diameter inch	DN size mm	Set pressure bar	Type
1/2	15	10	**SM152-1/2BC**

Spare Parts

Safety valve insert, set pressure 6 bar, for sizes R 1/2"	**A152-1/2AA**
Safety valve insert, set pressure 6 bar, for sizes R 3/4"	**A152-3/4AA**
Safety valve insert, set pressure 6 bar, for size R 1"	**A152-1AA**
Safety valve insert, set pressure 8 bar, for sizes R 1/2"	**A152-1/2AB**
Safety valve insert, set pressure 8 bar, for sizes R 3/4"	**A152-3/4AB**
Safety valve insert, set pressure 8 bar, for size R 1"	**A152-1AB**
Safety valve insert, set pressure 10 bar, for sizes R 1/2"	**A152-1/2AC**
Safety valve insert, set pressure 10 bar, for sizes R 3/4"	**A152-3/4AC**
Safety valve insert, set pressure 10 bar, for size R 1"	**A152-1AC**
Safety valve insert with chrome plated body, set pressure 8 bar, for sizes R 1/2"	**A152-1/2BB**
Safety valve insert with chrome plated body, set pressure 8 bar, for sizes R 3/4"	**A152-3/4BB**
Safety valve insert with chrome plated body, set pressure 10 bar, for sizes R 1/2"	**A152-1/2BC**
Safety valve insert with chrome plated body, set pressure 10 bar, for sizes R 3/4"	**A152-3/4BC**
Safety valve insert, set pressure 6 bar, for sizes R 1 1/4"	**A160-11/4AA**
Safety valve insert, set pressure 8 bar, for sizes R 1 1/4"	**A160-11/4AB**
Safety valve insert, set pressure 10 bar, for sizes R 1 1/4"	**A160-11/4AC**

High performance safety valve for compressed air, S245B

The S245B safety valves are direct loaded high performance safety valves with lifting device. They protect pressurized compressed air vessels (cylinders, tanks) against excessive pressure. S245B safety valves are used for compressors and other industrial purposes.

Approvals	CE, VdTUEV, ASME
Body material	brass
Port connection type	external threads
Max. media temperature	180 °C
Pressure setpoint range	1 ... 12 bar
Additional description	• Sturdy metal construction • Shakeproof lifting mechanism admitting no additional load • Type S245B approved by VdTUEV for pressure range from 0,5 - 30,0 bar and approved by ASME (American Society of Mechanical Engineers) for pressure range 2,8 - 30,0 bar (41 - 435 PSI) • Type S245B certified to Pressure Equipment Directive 97/23/EC, Reference No. CE 0035 • Set pressure settings possible between 0,5 and 30 bar in steps of 0,1 bar

Soft seat version, set pressure within the range of 1,0 - 12,0 bar

Spring bonnet material	Port diameter (inch)	Type
brass	G 1/2	**S245B-12ZA*...**
brass	G 3/4	**S245B-34ZA*...**
brass	G 1	**S245B-1ZA*...**
cast iron GG25	G 1 1/4	**S245B-114ZA*...**
cast iron GG25	G 1 1/2	**S245B-112ZA*...**
cast iron GG25	G 2	**S245B-2ZA*...**

Soft seat version, set pressure within the range of <1,0 or >12,0 bar

Spring bonnet material	Port diameter (inch)	Type
brass	G 1/2	**S245B-12ZB*...**
brass	G 3/4	**S245B-34ZB*...**
brass	G 1	**S245B-1ZB*...**
cast iron GG25	G 1 1/4	**S245B-114ZB*...**
cast iron GG25	G 1 1/2	**S245B-112ZB*...**
cast iron GG25	G 2	**S245B-2ZB*...**

High performance safety valve for compressed air, S245S

The S245S safety valves are direct loaded high performance safety valves with lifting device. The venting bonnet discharges the medium downwards. The S245S safety valves protect fixed vessels containing granular or powdered materials or silo tank vehicles containing fluids, granular or powdered materials which are unloaded using compressed air.

Approvals	VdTUEV, Certified to Pressure Equipment Directive 97/23/EG, Reference No. CE 0035
Body material	brass
Spring bonnet material	cast iron GG25
Port connection type	external threads
Max. media temperature	180 °C
Pressure setpoint range	0,9 ... 4,3 bar
Additional description	• Sturdy metal construction • Shakeproof lifting mechanism admitting no additional load • Rubber bellows for protection of moving parts • Venting bonnet for downwards discharge of fluid • Approved to AD information sheet A 2 and to VdTUEV information sheet safety valve 100 for set relief pressure between 0.9 and 4.3 bar • Set pressure adjustment at factory • Standard pressure settings between 0.9 and 4.3 bar in steps of 0.1 bar

Direct-acting safety valves

Port diameter inch	Type
G 1 1/4	**S245S-114Z*...**
G 1 1/2	**S245S-112Z*...**

Safety group with interchangeable safety valve insert, SG150

Safety groups of this type are used to protect pressurised water heaters according to the requirements of DIN 4753, Part 1, DIN 1988 and DIN EN1488.
They are compact appliances which incorporate all the necessary safety devices such as check valve, shutoff valve, test point and diaphragm type safety valve in one unit. The safety valve protects the downstream cylinder, pressure vessel etc. by automatically opening when excess pressure occurs. The check valve prevents back pressure, backflow and back syphonage of water from the hot water unit.

Approvals	DVGW-approval requested
Media	Water
Body material	brass, dezincification resistant
Max. media temperature	40 °C
Additional description	For closed hot water storage units up to 200 litres according to DIN 4753 Part 1 and DIN 1988. Tested to TRD 721 for 1.0 to 10.0 bar pressure range • Fully approved for noise level protection to class 1 • Replacement insert tested to TRD 721 • Easy venting • Meets KTW recommendations for potable water

With threaded male connections, set pressure 6,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	6	**SG150-1/2AA**
external threads	3/4	20	6	**SG150-3/4AA**

With threaded male connections, set pressure 8,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	8	**SG150-1/2AB**
external threads	3/4	20	8	**SG150-3/4AB**

With threaded male connections, set pressure 10,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	10	**SG150-1/2AC**
external threads	3/4	20	10	**SG150-3/4AC**

Without fittings, set pressure 6.0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	15	6	**SG150-1/2EA**
–	–	20	6	**SG150-3/4EA**

Without fittings, set pressure 8.0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	15	8	**SG150-1/2EB**
–	–	20	8	**SG150-3/4EB**

Without fittings, set pressure 10.0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	15	10	**SG150-1/2EC**
–	–	20	10	**SG150-3/4EC**

Accessories

Pressure gauge with housing diameter 50 mm, connecting pin above G 1/4, range 0 - 16 bar	**M08M16**
Pressure reducing valve for completion of the safety group SG150 with connection size 1/2"	**D150-1/2**
Pressure reducing valve for completion of the safety group SG150 with connection size 3/4"	**D160S-3/4**
Connection set with 1/2" threaded male connections	**VST06-1/2A**
Connection set with 3/4" threaded male connections	**VST06-3/4A**
Connection set with 1/2" solder connections	**VST06-1/2B**
Connection set with 3/4" solder connections	**VST06-3/4B**

Spare Parts

Discharge tundish	**TA160S**
Plug with O-ring R1/4" (packs of 5)	**S06K-1/4**
Safety valve insert, set pressure 6 bar	**A152-1/2AA**
Safety valve insert, set pressure 6 bar	**A152-3/4AA**
Safety valve insert, set pressure 8 bar	**A152-1/2AB**
Safety valve insert, set pressure 8 bar	**A152-3/4AB**
Safety valve insert, set pressure 10 bar	**A152-1/2AC**
Safety valve insert, set pressure 10 bar	**A152-3/4AC**
Check valve insert for safety valves 1/2"	**2166200**
Check valve insert for safety valves 3/4"	**2110200**

Safety group with interchangeable safety valve insert and pressure reducing valve, SG150D

Safety groups of this type are used to protect pressurised water heaters according to the requirements of DIN 4753, Part 1, DIN 1988 and DIN EN1488.
They are compact appliances which incorporate all the necessary safety devices such as check valve, shutoff valve, test point, diaphragm type safety valve and pressure reducing valve in one unit. The safety valve protects the downstream cylinder, pressure vessel etc. by automatically opening when excess pressure occurs. The check valve prevents back pressure, backflow and back syphonage of water from the hot water unit. In addition, a balanced seat pressure reducing valve is fitted on the inlet to control the supply pressure to that required for the system.

Approvals	DVGW-approval requested
Media	Water
Body material	brass, dezincification resistant
Max. media temperature	40 °C
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	yes
Balanced seat design	yes
Additional description	For closed hot water storage units up to 200 litres according to DIN 4753 Part 1 and DIN 1988. Tested to TRD 721 for 1.0 to 10.0 bar pressure range. • Fully approved for noise level protection to class 1 • Replacement insert tested to TRD 721 • Pressure reducing valve with inlet pressure balancing - inlet pressure fluctuation does not influence the outlet pressure • Easy venting • Meets KTW recommendations for potable water

With threaded male connections, set pressure 6,0 bar

Port connection type	Port diameter (inch)	DN size (mm)	Set pressure (bar)	Type
external threads	1/2	15	6	**SG150D-1/2AA**
external threads	3/4	20	6	**SG150D-3/4AA**

With threaded male connections, set pressure 8,0 bar

Port connection type	Port diameter (inch)	DN size (mm)	Set pressure (bar)	Type
external threads	1/2	15	8	**SG150D-1/2AB**
external threads	3/4	20	8	**SG150D-3/4AB**

With threaded male connections, set pressure 10,0 bar

Port connection type	Port diameter (inch)	DN size (mm)	Set pressure (bar)	Type
external threads	1/2	15	10	**SG150D-1/2AC**
external threads	3/4	20	10	**SG150D-3/4AC**

Without fittings, set pressure 6.0 bar

Port connection type	Port diameter (inch)	DN size (mm)	Set pressure (bar)	Type
–	–	20	6	**SG150D-3/4EA**
–	–	20	6	**SG150D-1EA**

Without fittings, set pressure 8.0 bar

Port connection type	Port diameter (inch)	DN size (mm)	Set pressure (bar)	Type
–	–	20	8	**SG150D-3/4EB**
–	–	20	8	**SG150D-1EB**

Without fittings, set pressure 10.0 bar

Port connection type	Port diameter (inch)	DN size (mm)	Set pressure (bar)	Type
–	–	20	10	**SG150D-3/4EC**
–	–	20	10	**SG150D-1EC**

Accessories

Reverse-rinsing filter for retro-conversion to a filter combination unit of pressure reducing valves	**_FN09S**
Connection set with 1/2" threaded male connections	**VST06-1/2A**
Connection set with 3/4" threaded male connections	**VST06-3/4A**
Connection set with 1/2" solder connections	**VST06-1/2B**
Connection set with 3/4" solder connections	**VST06-3/4B**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 25 bar	**M07M-A25**
Pressure gauge with housing diameter 50 mm, connecting pin above G1/4", range 0 - 16 bar	**M08M16**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**

Spare Parts

Discharge tundish	**TA160S**
Plug with O-ring R1/4" (packs of 5)	**S06K-1/4**
Safety valve insert, set pressure 6 bar	**A152-1/2AA**
Safety valve insert, set pressure 6 bar	**A152-3/4AA**
Safety valve insert, set pressure 8 bar	**A152-1/2AB**
Safety valve insert, set pressure 8 bar	**A152-3/4AB**
Safety valve insert, set pressure 10 bar	**A152-1/2AC**
Safety valve insert, set pressure 10 bar	**A152-3/4AC**
Valve insert complete (without filter) for pressure reducing valve	**D06FA-1/2**
Replacement filter insert for pressure reducing valve	**ES06F-1/2A**
Filter bowl	**SK06TG-1/2**

Safety group with interchangeable safety valve insert, SG160S

Type SG160S safety groups are used to protect pressurised water heaters according to the requirements of DIN 4753, Part 1, DIN 1988 and DIN EN1488. They are compact appliances which incorporate all the necessary safety devices such as check valve, shutoff valves, test point and diaphragm type safety valve in one unit. The safety valve protects the downstream cylinder, pressure vessel etc. by automatically opening when excess pressure occurs. The check valve prevents back pressure, backflow and back syphonage of water from the hot water unit.

Approvals	DIN/DVGW-approved
Media	Water
Body material	brass, dezincification resistant
Max. media temperature	40 °C
Additional description	For closed water heaters in compliance with DIN 4753, Part 1 and EN 1717. Tested to TRD 721 for pressure range 1.0 bar to 10.0 bar.

- Fully approved for noise level protection to group 1
- Safety valve tested to TRD 721 for the pressure range 1.0 to 10.0 bar
- Easy venting
- Complies with KTW requirements

With threaded male connections, set pressure 6,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	6	**SG160S-1/2AA**
external threads	3/4	20	6	**SG160S-3/4AA**
external threads	1	25	6	**SG160S-1AA**

With threaded male connections, set pressure 8,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	8	**SG160S-1/2AB**
external threads	3/4	20	8	**SG160S-3/4AB**
external threads	1	25	8	**SG160S-1AB**

With threaded male connections, set pressure 10,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	10	**SG160S-1/2AC**
external threads	3/4	20	10	**SG160S-3/4AC**
external threads	1	25	10	**SG160S-1AC**

Without connections, set pressure 6,0 bar, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	20	6	**SG160S-3/4EA**
–	–	20	6	**SG160S-1EA**

Without connections, set pressure 8,0 bar, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	20	8	**SG160S-3/4EB**
–	–	20	8	**SG160S-1EB**

Without connections, set pressure 10,0 bar, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	20	10	**SG160S-3/4EC**
–	–	20	10	**SG160S-1EC**

Accessories

Expansion vessel with connection set. Volume 12 l.	**MAG160S-12**
Expansion vessel with connection set. Volume 18 l.	**MAG160S-18**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G 1/4, range 0 - 25 bar	**M07M-A25**
Pressure gauge connection for SG160S 1/2"	**VSTM-1/2A**
Pressure gauge connection for SG160S 3/4"	**VSTM-3/4A**
Pressure gauge connection for SG160S 1"	**VSTM-1A**
Connection set with 1/2" threaded male connections	**VST06-1/2A**
Connection set with 3/4" threaded male connections	**VST06-3/4A**
Connection set with 1" threaded male connections	**VST06-1A**
Connection set with 1/2" solder connections	**VST06-1/2B**
Connection set with 3/4" solder connections	**VST06-3/4B**
Connection set with 1" solder connections	**VST06-1B**

Spare Parts

Discharge tundish	**TA160S**
Plug with O-ring R1/4" (packs of 5)	**S06K-1/4**
Safety valve insert, set pressure 6 bar	**A152-1/2AA**
Safety valve insert, set pressure 6 bar	**A152-3/4AA**
Safety valve insert, set pressure 6 bar	**A152-1AA**
Safety valve insert, set pressure 8 bar	**A152-1/2AB**
Safety valve insert, set pressure 8 bar	**A152-3/4AB**
Safety valve insert, set pressure 8 bar	**A152-1AB**
Safety valve insert, set pressure 10 bar	**A152-1/2AC**
Safety valve insert, set pressure 10 bar	**A152-3/4AC**
Safety valve insert, set pressure 10 bar	**A152-1AC**

Safety group with interchangeable safety valve insert and pressure reducing valve, SG160SD

Type SG160S safety groups are used to protect pressurised water heaters according to the requirements of DIN 4753, Part 1, DIN 1988 and DIN EN1488. They are compact appliances which incorporate all the necessary safety devices such as non return valve, shutoff valves, test point, diaphragm type safety valve and pressure reducing valve in one unit. The automatic self opening and closing of the safety valve protects the downstream hot water unit. The non return valve prevents back pressure, backflow and back syphonage of contaminated water. In addition, a balanced seat pressure reducing valve is fitted on the inlet to control the supply pressure to that required for the system.

Approvals	DIN/DVGW-approved
Media	Water
Body material	brass, dezincification resistant
Max. media temperature	40 °C
Pressure setpoint range	1,5 ... 6 bar
Setpoint scale	yes
Transparant strainer chamber	yes
Balanced seat design	yes
Additional description	For closed water heaters in compliance with DIN 4753, Part 1 and EN 1717. Tested to TRD 721 for pressure range 1.0 bar to 10.0 bar. • Fully approved for noise level protection to group 1 • Safety valve tested to TRD 721 for the pressure range 1.0 to 10.0 bar • Balanced seat pressure reducing valve - inlet pressure fluctuations do not influence the outlet pressure • Easy venting • Complies with KTW requirements

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With threaded male connections, set pressure 6,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	6	**SG160SD-1/2AA**
external threads	3/4	20	6	**SG160SD-3/4AA**
external threads	1	25	6	**SG160SD-1AA**

With threaded male connections, set pressure 8,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	8	**SG160SD-1/2AB**
external threads	3/4	20	8	**SG160SD-3/4AB**
external threads	1	25	8	**SG160SD-1AB**

With threaded male connections, set pressure 10,0 bar

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
external threads	1/2	15	10	**SG160SD-1/2AC**
external threads	3/4	20	10	**SG160SD-3/4AC**
external threads	1	25	10	**SG160SD-1AC**

Without connections, set pressure 6,0 bar, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	20	6	**SG160SD-3/4EA**
–	–	20	6	**SG160SD-1EA**

Without connections, set pressure 8,0 bar, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	20	8	**SG160SD-3/4EB**
–	–	20	8	**SG160SD-1EB**

Without connections, set pressure 10,0 bar, DN is based on connection size of tailpiece

Port connection type	Port diameter inch	DN size mm	Set pressure bar	Type
–	–	20	10	**SG160SD-3/4EC**
–	–	20	10	**SG160SD-1EC**

Accessories

Expansion vessel with connection set. Volume 12 l.	**MAG160S-12**
Expansion vessel with connection set. Volume 18 l.	**MAG160S-18**
Connection set with 1/2" threaded male connections	**VST06-1/2A**
Connection set with 3/4" threaded male connections	**VST06-3/4A**
Connection set with 1" threaded male connections	**VST06-1A**
Connection set with 1/2" solder connections	**VST06-1/2B**
Connection set with 3/4" solder connections	**VST06-3/4B**
Connection set with 1" solder connections	**VST06-1B**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 4 bar	**M07M-A4**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 10 bar	**M07M-A10**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 16 bar	**M07M-A16**
Pressure gauge with housing diameter 63 mm, rear connection thread G1/4", range 0 - 25 bar	**M07M-A25**
Pressure gauge connection for SG160S 1/2"	**VSTM-1/2A**
Pressure gauge connection for SG160S 3/4"	**VSTM-3/4A**
Pressure gauge connection for SG160S 1"	**VSTM-1A**
Double ring wrench for removal of spring bonnet and filter bowl	**ZR06K**

Spare Parts

Discharge tundish	**TA160S**
Plug with O-ring R1/4" (packs of 5)	**S06K-1/4**
Safety valve insert, set pressure 6 bar	**A152-1/2AA**
Safety valve insert, set pressure 6 bar	**A152-3/4AA**
Safety valve insert, set pressure 6 bar	**A152-1AA**
Safety valve insert, set pressure 8 bar	**A152-1/2AB**
Safety valve insert, set pressure 8 bar	**A152-3/4AB**
Safety valve insert, set pressure 8 bar	**A152-1AB**
Safety valve insert, set pressure 10 bar	**A152-1/2AC**
Safety valve insert, set pressure 10 bar	**A152-3/4AC**
Safety valve insert, set pressure 10 bar	**A152-1AC**
Valve insert complete (without filter) for pressure reducing valve	**D06FA-1/2**
Valve insert complete (without filter) for pressure reducing valve	**D06FA-1A**
Replacement filter insert for pressure reducing valve	**ES06F-1/2A**
Clear filter bowl with O-ring for pressure reducing valve	**SK06TG-1/2**

SECURA-Safety group for pressurised hot water storage units up to 200 litres, SG162

SG162 safety groups are controls to DIN 4753 Part 1 and DIN 1988 for the protection of pressurised hot water storage units with capacities up to 200 litres. They are composite assemblies which integrate in one unit all necessary safety components, including check valve, shutoff valve, test point and diaphragm-type safety valve. The safety valve protects the downstream cylinder, pressure vessel etc. by automatically opening when excess pressure occurs. The check valve prevents back pressure, backflow and back syphonage of water from the hot water unit.

Approvals	TUEV approved, certified to Pressure Equipment Directive 97/23/EG, Reference No. CE 0035.
Media	Water
Body material	brass, dezincification resistant
Body finishing	chrome plated
Port diameter	1/2 inch
DN size	15 mm
Max. media temperature	70 °C
Additional description	For closed hot water storage units up to 200 litres according to DIN 4753 Part 1 and EN 1717. Tested to TRD 721 for 1.0 to 10.0 bar pressure range. • The venting device can be easily serviced • Can be fitted on the left or right • Housing and connection pipes are chrome plated • The pressure reducing valve can be retro fitted • Complies with drinking water requirements

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Safety valve opening pressure 6,0 bar

Set pressure bar	Type
6	**SG162-1/2A**

Safety valve opening pressure 10,0 bar

Set pressure bar	Type
10	**SG162-1/2C**

Accessories

Pressure reducing valve	**D162-1/2A**

Spare Parts

Safety valve insert, set pressure 6 bar	**A162-BA**
Safety valve insert, set pressure 10 bar	**A162-BC**

Safety group with pressure reducing valve for pressurised hot water storage units up to 200 litres, SG162D

SG162D safety groups are safety controls to DIN 4753 Part 1 and DIN 1988 for the protection of pressurised hot water storage units with capacities up to 200 litres. They are composite assemblies which integrate in one unit all necessary safety components, including check valve, shutoff valve, test point and diaphragm-type safety valve. The safety valve protects the down-stream cylinder, pressure vessel etc. by automatically opening when excess pressure occurs. The check valve prevents back pressure, backflow and back syphonage of water from the hot water unit. In addition, a balanced-seat pressure reducing valve is fitted on the inlet and this reduces the pressure from the inlet supply to the pressure required for the system. It also prevents uncontrolled dripping from the safety valve when the inlet pressure fluctuates.

Approvals	TUEV approved, certified to Pressure Equipment Directive 97/23/EG, Reference No. CE 0035.
Media	Water
Body material	brass, dezincification resistant
Body finishing	chrome plated
Port diameter	1/2 inch
DN size	15 mm
Max. media temperature	70 °C
Balanced seat design	yes
Additional description	For closed hot water storage units up to 200 litres according to DIN 4753 Part 1 and EN 1717. Tested to TRD 721 for 1.0 to 10.0 bar pressure range. • The venting device can be easily serviced • Can be fitted on the left or right • Housing and connection pipes are chrome plated • The pressure reducing valve can be retro fitted • The pressure reducing valve provides inlet pressure compensation - inlet pressure fluctuations have no influence on the outlet pressure

Safety valve opening pressure 6,0 bar

Set pressure bar	Type
6	**SG162D-1/2A**

Safety valve opening pressure 10,0 bar

Set pressure bar	Type
10	**SG162D-1/2C**

Spare Parts

Safety valve insert, set pressure 6 bar	**A162-BA**
Safety valve insert, set pressure 10 bar	**A162-BC**
Pressure reducing valve	**D162-1/2A**

Thermostatic mixing valve with scald protection, TM50

TM50 thermostatic mixing valves provide control of the water temperature and are used: - For centralised control on hot water supply units or for localised control adjacent to point-use outlets. Or for use with solar-heated hot water units with dual energy source. - In heating systems with underfloor heating or for limiting boiler return temperatures. Where a system includes a hot water circulation circuit, a KB191 return flow retarder unit (see accessories) must be fitted to prevent cold water backfeeding and cooling the mixed water at the outlets.

Media	Water
Body material	brass, dezincification resistant
Port connection type	external threads
Max. media temperature	90 °C
Temp. setpoint range	30 ... 60 °C
Additional description	• Highly sensitive thermal element with good all-round water temperature sensing, even at low flow rates • Simple setting of the required water temperature • Scald protection - the hot water inlet is automatically cut off if the cold supply fails provided that the hot water inlet temperature is at least 10 K higher than that of mixed water setting • The cold water inlet is automatically cut off if the hot supply fails • Inner components are of scale-resistant materials

With male connections

	Type
	TM50-1/2E

Accessories

Return flow-retarder unit for fitting to systems which include a hot water circulation circuit - to prevent cold water backfeeding and cooling the mixed water at the outlets	KB191-3/4

Thermostatic mixing valve with scald protection for solar installations, TM50SOLAR

Thermostatic mixing valves of this type are used for central regulation of the water temperature in solar-powered, bivalent water heaters.
A cold water break can be fitted in the circulation line in water heater systems, which prevents cold water from mixing at the extraction point via the circulation line.

Media	Water
Body material	brass, dezincification resistant
Body finishing	nickel plated
Port connection type	external threads
Max. media temperature	110 °C
Temp. setpoint range	30 ... 60 °C
Additional description	• Highly sensitive thermal element with good all-round water-temperature sensing, even at low flow rates • Simple setting of the required water temperature • Scald protection - the hot water inlet is automatically cut off if the cold supply fails provided that the hot water inlet tempe-rature is at least 10 K higher than that of mixed water setting • The cold water inlet is automatically cut off if the hot supply fails • Meets KTW recommendations for potable water • Inner components are of scale-resistant materials

Without connection fittings

	Type
	TM50SOLAR-1/2E

Thermostatic mixing valve with scald protection, TM200

TM200 thermostatic mixing valves provide control of the water temperature and are used: - For centralised control on hot water supply units or for localised control adjacent to point-use outlets. Or for use with solar-heated hot water units with dual energy source. - In heating systems with underfloor heating or for limiting boiler return temperatures. Where a system includes a hot water circulation circuit, a KB191 return flow retarder unit (see accessories) must be fitted to prevent cold water backfeeding and cooling the mixed water at the outlets.

Media	Water
Body material	brass
Max. media temperature	90 °C
Temp. setpoint range	30 ... 60 °C
Additional description	• Highly sensitive thermal element with good all-round water temperature sensing, even at low flow rates • Simple setting of the required water temperature • Scald protection - the hot water inlet is automatically cut off if the cold supply fails provided that the hot water inlet temperature is at least 10 K higher than that of mixed water setting • The cold water inlet is automatically cut off if the hot supply fails • Inner components are of scale-resistant materials

With threaded male connections 3/4 inch

Port connection type	Type
external threads	**TM200-3/4A**

With 22 mm soldered connections

Port connection type	Type
soldering	**TM200-3/4B**

Accessories

Return flow-retarder unit for fitting to systems which include a hot water circulation circuit - to prevent cold water backfeeding and cooling the mixed water at the outlets	**KB191-3/4**

Spare Parts

Control piston with integral sensing element	**TM200A-30/60**

Thermostatic mixing valve with scald protection for solar installations, TM200SOLAR

Thermostatic mixing valves of this type are used for central regulation of the water temperature in solar-powered, bivalent water heaters.
A cold water break can be fitted in the circulation line in water heater systems, which prevents cold water from mixing at the extraction point via the circulation line.

Media	Water
Body material	brass, dezincification resistant
Body finishing	nickel plated
Port connection type	external threads
Max. media temperature	110 °C
Temp. setpoint range	30 ... 60 °C
Additional description	• Highly sensitive thermal element with good all-round water-temperature sensing, even at low flow rates • Simple setting of the required water temperature • Scald protection - the hot water inlet is automatically cut off if the cold supply fails provided that the hot water inlet tempe-rature is at least 10 K higher than that of mixed water setting • The cold water inlet is automatically cut off if the hot supply fails • Meets KTW recommendations for potable water • Inner components are of scale-resistant materials

With threaded union connectors

	Type
	TM200SOLAR-3/4A

Without connection fittings

	Type
	TM200SOLAR-3/4E

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Thermostatic mixing valve with scald protection, TM300

TM300 thermostatic mixing valves provide control of the water temperature and are used: - For centralised control on hot water supply units or for localised control adjacent to point-use outlets. Or for use with solar-heated hot water units with dual energy source. - In heating systems with underfloor heating or for limiting boiler return temperatures. Where a system includes a hot water circulation circuit, a KB191 return flow retarder unit (see accessories) must be fitted to prevent cold water backfeeding and cooling the mixed water at the outlets.

Media	Water
Body material	brass
Port connection type	coupling compressing fitting
Max. media temperature	90 °C
Temp. setpoint range	30 ... 60 °C
Additional description	• Highly sensitive thermal element with good all-round water temperature sensing, even at low flow rates • Simple setting of the required water temperature • Scald protection - the hot water inlet is automatically cut off if the cold supply fails provided that the hot water inlet temperature is at least 10 K higher than that of mixed water setting • The cold water inlet is automatically cut off if the hot supply fails • Inner components are of scale-resistant materials • With inlet check valves

With 28 mm compression fitting, 44 degree C setting

	Type
	TM300-3/4I

With 22 mm compression fitting, 38 degree C setting, TMV 2 approved

	Type
	TM300-3/4H

Accessories

Return flow-retarder unit for fitting to systems which include a hot water circulation circuit - to prevent cold water backfeeding and cooling the mixed water at the outlets	KB191-3/4

Thermostatic mixing valve with scald protection for solar installations, TM300SOLAR

Thermostatic mixing valves of this type are used for central regulation of the water temperature in solar-powered, bivalent water heaters.
A cold water break can be fitted in the circulation line in water heater systems, which prevents cold water from mixing at the extraction point via the circulation line.

Media	Water
Body material	brass, dezincification resistant
Body finishing	nickel plated
Port connection type	external threads
Max. media temperature	110 °C
Temp. setpoint range	30 ... 60 °C
Additional description	• Highly sensitive thermal element with good all-round water-temperature sensing, even at low flow rates • Simple setting of the required water temperature • Scald protection - the hot water inlet is automatically cut off if the cold supply fails provided that the hot water inlet tempe-rature is at least 10 K higher than that of mixed water setting • The cold water inlet is automatically cut off if the hot supply fails • Meets KTW recommendations for potable water • Inner components are of scale-resistant materials

With threaded union connectors

	Type
	TM300SOLAR-3/4A

Thermostatic mixing valvewith scald protection, TM3400/TM3410

Standard thermostatic mixing valves TM3400/TM3410 are used in domestic hot water central heating systems with or without recirculation.
The aim is to maintain a constant temperature of the mixed water for users, by varying the temperature of the hot water stored. Thermostatic mixing valves also have applications in underfloor heating applications and in alternative energy systems, such as solar and woodchip systems.

Media	Water
Max. media temperature	°C
Body material	red bronze RG5
Additional description	• Wide flow • Lightness • High degree of adjustment precision • Scald protection • Works without external energy • Direct connection to recicrculation circuit (except 1/2") • Complete with female inlet couplings

Setting range 20...30 C Set during manufacture 25 C

Temp. setpoint range °C	Connection diameter inch	Port connection type	Type
20 ... 30	1/2"	external threads	**TM3400.910**
20 ... 30	3/4"	external threads	**TM3400.920**
20 ... 30	1	external threads	**TM3400.930**
20 ... 30	11/4"	external threads	**TM3400.940**
20 ... 30	11/2"	external threads	**TM3400.950**
20 ... 30	2	external threads	**TM3400.960**
20 ... 30	DN65	flanges	**TM3410.601**
20 ... 30	DN80	flanges	**TM3410.801**

Setting range 30...45 C Set during manufacture 40 C

Temp. setpoint range °C	Connection diameter inch	Port connection type	Type
30 ... 45	1/2"	external threads	**TM3400.912**
30 ... 45	3/4"	external threads	**TM3400.922**
30 ... 45	1	external threads	**TM3400.932**
30 ... 45	11/4"	external threads	**TM3400.942**
30 ... 45	11/2"	external threads	**TM3400.952**
30 ... 45	2	external threads	**TM3400.962**
30 ... 45	DN65	flanges	**TM3410.605**
30 ... 45	DN80	flanges	**TM3410.805**

Setting range 36...53 C Set during manufacture 48 C

Temp. setpoint range °C	Connection diameter inch	Port connection type	Type
36 ... 53	1/2"	external threads	**TM3400.914**
36 ... 53	3/4"	external threads	**TM3400.924**
36 ... 53	1	external threads	**TM3400.934**
36 ... 53	11/4"	external threads	**TM3400.944**
36 ... 53	11/2"	external threads	**TM3400.954**
36 ... 53	2	external threads	**TM3400.964**
36 ... 53	DN65	flanges	**TM3410.606**
36 ... 53	DN80	flanges	**TM3410.806**

Setting range 45...65 C Set during manufacture 55 C

Temp. setpoint range °C	Connection diameter inch	Port connection type	Type
45 ... 65	1/2"	external threads	**TM3400.916**
45 ... 65	3/4"	external threads	**TM3400.926**
45 ... 65	1	external threads	**TM3400.936**
45 ... 65	11/4"	external threads	**TM3400.946**
45 ... 65	11/2"	external threads	**TM3400.956**
45 ... 65	2	external threads	**TM3400.966**
45 ... 65	DN65	flanges	**TM3410.608**
45 ... 65	DN80	flanges	**TM3410.808**

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Honeywell

Basic valve, BV300

The basic valves are used as shutoff valves. They may be controlled by the common medium or by an external medium using the integral control valve. A manual, electro-magnetic solenoid or float valve can be used as the control valve. Their compact construction makes them ideally suited for applications where space is limited, for example in ducts. They can be used for commercial or industrial applications within the scope of their specification.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	• High flow rate • Light weight and compact construction • Powder coated inside and outside - Powder used is physiologically and toxicologically safe

Flanges, PN 16, ISO 2084; PN 25, ISO 2441 on request

DN size mm	Flow capacity Kvs	Type
50	43	**BV300-50A**
65	43	**BV300-65A**
80	103	**BV300-80A**
100	167	**BV300-100A**
150	407	**BV300-150A**
200	676	**BV300-200A**
250	1160	**BV300-250A**
300	1600	**BV300-300A**
350	1600	**BV300-350A**
400	3300	**BV300-400A**
450	3300	**BV300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**

Pressure sustaining valve, DH300

DH300 pressure sustaining valves are regulators which control the pressure on the inlet side. They are used wherever a specific inlet pressure must not be exceeded, for example limiting the pressure in the inlet supply network or in transition links between supply networks and high demand large users. Their compact construction makes them ideally suited for applications where space is limited, for example in ducts. They can be used for commercial or industrial applications within the scope of their specification.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Pressure setpoint range	1 ... 12 bar
Additional description	• High flow capacity • High control accuracy • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves • Replaceable valve seat

Flanges, PN 16, ISO 2084; PN 25, ISO 2441 on request

DN size mm	Flow capacity Kvs	Type
50	43	**DH300-50A**
65	43	**DH300-65A**
80	103	**DH300-80A**
100	167	**DH300-100A**
150	407	**DH300-150A**
200	676	**DH300-200A**
250	1160	**DH300-250A**
300	1600	**DH300-300A**
350	1600	**DH300-350A**
400	3300	**DH300-400A**
450	3300	**DH300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**CX-PS**
Pressure gauge	**M07M-A16**

Pressure regulator, DR300

Pressure regulators of this type protect downstream installations against excessive supply pressure. Pressure regulators are used when the capacity of direct controlled pressure reducing valves are insufficient. Their compact construction makes them particularly suitable for installation in limited spaces, for example in ducts. By using a pressure regulator, pressurization damage is avoided and water consumption reduced. The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation. Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Pressure setpoint range	1 ... 12 bar
Additional description	• High flow capacity • High control accuracy • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves • No external energy required for operation

Flanges, PN 16, ISO 2084

DN size mm	Flow capacity Kvs	Type
50	43	**DR300-50A**
65	43	**DR300-65A**
80	103	**DR300-80A**
100	167	**DR300-100A**
150	407	**DR300-150A**
200	676	**DR300-200A**
250	1160	**DR300-250A**
300	1600	**DR300-300A**
350	1600	**DR300-350A**
400	3300	**DR300-400A**
450	3300	**DR300-450A**

Flanges, PN 25, ISO 2084

DN size mm	Flow capacity Kvs	Type
50	43	**DR300-50B**
65	43	**DR300-65B**
80	103	**DR300-80B**
100	167	**DR300-100B**
150	407	**DR300-150B**
200	676	**DR300-200B**
250	1160	**DR300-250B**
300	1600	**DR300-300B**
350	1600	**DR300-350B**
400	3300	**DR300-400B**
450	3300	**DR300-450B**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**CX-PR**
Pressure gauge	**M07K-A16**

Attitude control valve, FD300

The FD300 attitude control valve controls the water level in, for example, water reservoirs without the need for using a float valve or other ancillary controls. The highly sensitive pilot valve and the main valve are installed outside the water reservoir and the pilot valve senses the hydrostatic water pressure from the water level in the reservoir. The main valve closes when the maximum set pressure for the pilot valve is reached and reopens when the water level corresponds to the lower set value on the pilot valve. The standard version permits filling of a water storage unit. A special version is also available on request which can be used for both filling and emptying water storage units.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	Setting range 0.5 - 5 m water head (Standard version) • High flow rate • High control accuracy • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Housing with flange, PN 16; PN 25 on request

DN size mm	Flow capacity Kvs	Type
50	43	**FD300-50A**
65	43	**FD300-65A**
80	103	**FD300-80A**
100	167	**FD300-100A**
150	407	**FD300-150A**
200	676	**FD300-200A**
250	1160	**FD300-250A**
300	1600	**FD300-300A**
350	1600	**FD300-350A**
400	3300	**FD300-400A**
450	3300	**FD300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**76-600**

Filling valve, FV300

The FV300 filling valve can be used in water supplies and for industrial and commercial applications for the filling of reservoirs, tanks and cisterns. It is controlled by the main storage medium via a float valve and impulse link pipework. The FV300 filling valve is prevented from filling constantly by the use of a pilot valve, which can be adjusted to provide varying fill level differentials for opening and closing the valve.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Additional description	Switching level differential 5 - 160 cm with pilot float valve 70-550 or 5 - 40 cm with pilot float valve 70-610. Please order pilot float valves separately. Minimum inlet pressure 0.7 bar + pressure resulting from differential in physical height of the impulse link pipe.

- High flow capacity
- Light weight and compact construction
- Powder coated inside and outside - Powder used is physiologically and toxicologically safe
- Integral control circuit and ball valves

Housing with flange, PN 16; PN 25 on request

DN size mm	Flow capacity Kvs	Type
50	43	**FV300-50A**
65	43	**FV300-65A**
80	103	**FV300-80A**
100	167	**FV300-100A**
150	407	**FV300-150A**
200	676	**FV300-200A**
250	1160	**FV300-250A**
300	1600	**FV300-300A**
350	1600	**FV300-350A**
400	3300	**FV300-400A**
450	3300	**FV300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Pilot float valve, level switching differential 5 - 160 cm, for all sizes	**70-550**
Pilot float valve, level switching differential 5 - 40 cm, for all sizes	**70-610**

Accessories

Pilot float valve, level switching differential 5 - 160 cm, for all sizes	**70-550**
Pilot float valve, level switching differential 5 - 40 cm, for all sizes	**70-610**

Magnetic solenoid valve, MV300

Type MV300 magnetic solenoid valves are mainly used as shutoff valves. They are controlled by the integral magnetic solenoid operated valve. Their compact design makes them ideally suited where space is limited, for example in ducts. Within the scope of their specification they can be used on industrial and commercial applications.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	• High flow capacity • Fitting of impulse link pipework is not necessary • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Flanges, PN 16, ISO 2084, Magnetic solenoid pilot valve 230 V/50 Hz closed when electrical supply off; PN 25, ISO 2441 on request

DN size mm	Flow capacity Kvs	Type
50	43	**MV300-50A**
65	43	**MV300-65A**
80	103	**MV300-80A**
100	167	**MV300-100A**
150	407	**MV300-150A**
200	676	**MV300-200A**
250	1160	**MV300-250A**
300	1600	**MV300-300A**
350	1600	**MV300-350A**
400	3300	**MV300-400A**
450	3300	**MV300-450A**

Flanges, PN 16, ISO 2084, Magnetic solenoid pilot valve 230 V/50 Hz open when electrical supply off; PN 25, ISO 2441 on request

DN size mm	Flow capacity Kvs	Type
50	43	**MV300-50AA**
65	43	**MV300-65AA**
80	103	**MV300-80AA**
100	167	**MV300-100AA**
150	407	**MV300-150AA**
200	676	**MV300-200AA**
250	1160	**MV300-250AA**
300	1600	**MV300-300AA**
350	1600	**MV300-350AA**
400	3300	**MV300-400AA**
450	3300	**MV300-450AA**

Flanges, PN 16, ISO 2084, Magnetic solenoid pilot valve 24 V/50 Hz closed when electrical supply off; PN 25, ISO 2441 on request

DN size mm	Flow capacity Kvs	Type
50	43	**MV300-50B**
65	43	**MV300-65B**
80	103	**MV300-80B**
100	167	**MV300-100B**
150	407	**MV300-150B**
200	676	**MV300-200B**
250	1160	**MV300-250B**
300	1600	**MV300-300B**
350	1600	**MV300-350B**
400	3300	**MV300-400B**
450	3300	**MV300-450B**

Flanges, PN 16, ISO 2084, Magnetic solenoid pilot valve 24 V/50 Hz open when electrical supply off; PN 25, ISO 2441 on request

DN size mm	Flow capacity Kvs	Type
50	43	**MV300-50BB**
65	43	**MV300-65BB**
80	103	**MV300-80BB**
100	167	**MV300-100BB**
150	407	**MV300-150BB**
200	676	**MV300-200BB**
250	1160	**MV300-250BB**
300	1600	**MV300-300BB**
350	1600	**MV300-350BB**
400	3300	**MV300-400BB**
450	3300	**MV300-450BB**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**

Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement magnetic solenoid valve, 230 V/50 Hz, normally closed	**0903761**
Replacement magnetic solenoid valve, 24 V/50 Hz, normally closed	**0903762**

Surge anticipating valve, PC300

The PC300 surge anticipating valve for pumped systems is used for the prevention of negative pressure and water pressure shocks in long pumped pipework systems caused by sudden pump shut-off (e.g. from power failure).

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	• High flow capacity • High control accuracy • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Housing with flange, PN 16; PN 25 on request

DN size mm	Flow capacity Kvs	Type
65	43	**PC300-65A**
80	103	**PC300-80A**
100	167	**PC300-100A**
150	407	**PC300-150A**
200	676	**PC300-200A**
250	1160	**PC300-250A**
300	1600	**PC300-300A**
350	1600	**PC300-350A**
400	3300	**PC300-400A**
450	3300	**PC300-450A**

Spare Parts

Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**66-300**
Pressure gauge	**M39M-A16**

Pump control valve, PS300

The PS300 valve is used as a protection valve in pressure boosting systems to provide a water hammer free shutdown and start-up of pumps.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	• High flow capacity • Light weight and compact construction • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Housing with flange, PN 16, ISO 7005, EN 1092-2; PN 25 on request

DN size mm	Flow capacity Kvs	Type
50	43	**PS300-50A**
65	43	**PS300-65A**
80	103	**PS300-80A**
100	167	**PS300-100A**
150	407	**PS300-150A**
200	676	**PS300-200A**
250	1160	**PS300-250A**
300	1600	**PS300-300A**
350	1600	**PS300-350A**
400	3300	**PS300-400A**
450	3300	**PS300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement magnetic solenoid valve, 24 V AC, normally closed	**0903763**
End switch	**0903764**

Safety valve, SV300

The quick relief SV300 safety valve is controlled by the medium flowing through it via a pilot valve.It is preferably installed in branches of supply pipework and protects downstream parts of a system which are at risk from unacceptable excess pressure which can, for example, be caused by pumps. If the inlet pressure to the valve rises up to the set opening pressure, then the valve opens immediately to the maximum flow position. If the pressure falls to the set pressure, then the valve closes slowly to prevent pressure shock loads.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	Opening pressure 1 - 7 bar adjustable. • High flow capacity • Light weight and compact construction • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Housing with flange, PN 16, ISO 7005, EN 1092-2; PN 25 on request

DN size mm	Flow capacity Kvs	Type
50	43	**SV300-50A**
65	43	**SV300-65A**
80	103	**SV300-80A**
100	167	**SV300-100A**
150	407	**SV300-150A**
200	676	**SV300-200A**
250	1160	**SV300-250A**
300	1600	**SV300-300A**
350	1600	**SV300-350A**
400	3300	**SV300-400A**
450	3300	**SV300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**CX-PS**

Protection valve for deep well pumping, TC300

The protection valve for deep well pumping is used to permit pressure shock free starting and stopping of deep well pumps.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	• High flow capacity • Light weight and compact construction • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Housing with flange, PN 16, ISO 7005, EN 1092; PN 25 on request

DN size mm	Flow capacity Kvs	Type
50	43	**TC300-50A**
65	43	**TC300-65A**
80	103	**TC300-80A**
100	167	**TC300-100A**
150	407	**TC300-150A**
200	676	**TC300-200A**
250	1160	**TC300-250A**
300	1600	**TC300-300A**
350	1600	**TC300-350A**
400	3300	**TC300-400A**
450	3300	**TC300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement magnetic solenoid valve, normally closed	**0903765**
Replacement magnetic solenoid valve, normally open	**0903766**

Flow rate regulator, VR300

A flow rate regulator, also called a flow rate limiting valve, controls to a fixed flow rate, independent of fluctuating operating pressures and take-off flow rates. It prevents, for example, pumps running at too high a performance or regulates the performance of whole installations and systems.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	• High flow capacity • High control accuracy • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Housing with flange, PN 16, ISO 7005, EN 1092-2; PN 25 on request

DN size mm	Flow capacity Kvs	Type
50	43	**VR300-50A**
65	43	**VR300-65A**
80	103	**VR300-80A**
100	167	**VR300-100A**
150	407	**VR300-150A**
200	676	**VR300-200A**
250	1160	**VR300-250A**
300	1600	**VR300-300A**
350	1600	**VR300-350A**
400	3300	**VR300-400A**
450	3300	**VR300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**CX-FR**

Priority valve, VV300

VV300 priority valves are a combination between pressure regulating and pressure limiting valves. They are used to ensure priority drinking water supply to important systems. Ancillary systems are then supplied only when there is sufficient surplus drinking water available. In addition downstream installations are protected against excess supply pressures. The compact construction makes them particularly suitable for applications where space is limited, for example in ducts. The application of priority valves prevents pressure damage. The set pressure remains constant even when the inlet pressure fluctuates greatly.

Media	Water
Body material	spherulitic cast iron GGG40
Body finishing	powder coating
Port connection type	flanges
Max. media temperature	80 °C
Static pressure	PN16
Minimum inlet pressure	0,7 bar
Additional description	Opening pressure, pilot valve CX-PS 1 - 12 bar. Outlet pressure, pilot valve CX-PR 1 - 12 bar. • High flow capacity • High control accuracy • Powder coated inside and outside - Powder used is physiologically and toxicologically safe • Integral control circuit and ball valves

Housing with flange, PN 16, ISO 7005, EN 1092-2; PN 25 on request

DN size mm	Flow capacity Kvs	Type
50	43	**VV300-50A**
65	43	**VV300-65A**
80	103	**VV300-80A**
100	167	**VV300-100A**
150	407	**VV300-150A**
200	676	**VV300-200A**
250	1160	**VV300-250A**
300	1600	**VV300-300A**
350	1600	**VV300-350A**
400	3300	**VV300-400A**
450	3300	**VV300-450A**

Spare Parts

Seal Set for DN 50	**0903750**
Seal Set for DN 65	**0903751**
Seal Set for DN 80	**0903752**
Seal Set for DN 100	**0903753**
Seal Set for DN 150	**0903754**
Seal Set for DN 200	**0903755**
Seal Set for DN 250	**0903756**
Seal Set for DN 300	**0903757**
Seal Set for DN 350	**0903758**
Seal Set for DN 400	**0903759**
Seal Set for DN 450	**0903760**
Replacement pilot valve for all sizes	**CX-PR**
Replacement pilot valve for all sizes	**CX-PS**
Pressure gauge	**M07M-A16**

Temperature regulator with balanced single-seat piston valve, TO485

TO485 temperature regulators are used in commercial and industrial installations where the operating temperature in the system is to be limited to a preset value. The TO485 temperature regulator is therefore especially suitable for use in cooling systems. The integral strainer protects the regulator against individual loose dirt particles which may be circulating through the system. Where dirt is constantly present, a separate upstream strainer must also be fitted where dirt is constantly present.

Media	Water, oil-free compressed air and nitrogen up to 70 °C
Body material	brass
Port connection type	external threads
Max. media temperature	70 °C
Static pressure	PN16
Additional description	• Actuator with pressure-balanced valve - fluctuating inlet pressures have no influence on the control temperature • Integral strainer and soft seat valve • Over-temperature safety protection at 50 K above the set value • Sensor phial with 3 m long capillary • Separate immersion pocket

Setting range 30 to 100 degree C

Port diameter inch	Type
1/2	**TO485-1/2A**
3/4	**TO485-3/4A**
1	**TO485-1A**
1 1/4	**TO485-11/4A**
1 1/2	**TO485-11/2A**
2	**TO485-2A**

Setting range 0 to 70 degree C

Port diameter inch	Type
1/2	**TO485-1/2B**
3/4	**TO485-3/4B**
1	**TO485-1B**
1 1/4	**TO485-11/4B**
1 1/2	**TO485-11/2B**
2	**TO485-2B**

Accessories

Thermostat relief valve, to be fitted where the operating pressure is above 13.0 bar	**T447**

Float valve for water storage tanks, VR 170

VR 170 float valves regulate a fluid level in vented open or closed storage vessels or can be used for filling of water supply storage tanks. Within the scope of their specification they can be used for industrial or commercial installations or also for public water supply systems. A soft seat seal provides positive shutoff, even with fluctuating supply pressure.

Media: Water and neutral liquids

Additional description:
- Available with plastics or stainless steel floats
- Float can be fitted horizontally or vertically
- Open construction design
- Seat seal and piston replaceable
- Lever arm can be shortened where supply pressure is low

Standard version

Body material	Port connection type	Port diameter inch	Max. media temperature °C	Type
brass	external threads	1/2	–	**VR170-1/2A**
brass	external threads	3/4	–	**VR170-3/4A**
brass	external threads	1	–	**VR170-1A**
brass	external threads	1 1/4	–	**VR170-11/4A**
brass	external threads	1 1/2	–	**VR170-11/2A**
brass	external threads	2	–	**VR170-2A**
red bronze RG5	external threads	2 1/2	–	**VR170-21/2A**

Stainless steel float for VR 170

Body material	Port connection type	Port diameter inch	Max. media temperature °C	Type
stainless steel	–	–	90	**ZN170-1/2A**
stainless steel	–	–	90	**ZN170-3/4A**
stainless steel	–	–	90	**ZN170-1A**
stainless steel	–	–	90	**ZN170-11/4A**
stainless steel	–	–	90	**ZN170-11/2A**
stainless steel	–	–	90	**ZN170-2A**
stainless steel	–	–	90	**ZN170-21/2A**
stainless steel	–	–	90	**ZN170-3A**

Plastic float for VR 170

Body material	Port connection type	Port diameter inch	Max. media temperature °C	Type
synthetic material	–	–	65	**Z171T-1/2A**
synthetic material	–	–	65	**Z171T-11/4A**

Alwa-Kombi-4 (V1800) Circulation throttle valve

Throttle and shut-off valve for potable water circulation loops for balancing according to DVGW worksheets W551 and W552. Retrofittable automatic temperature control with support of thermal disinfection. Draining support with adapter (accessory). Valve housing without side connections for easy insulation. Cavity-free insert with maintenance-free spindle sealing. Handwheel thread isolated from the flow. Visible digital pre-setting dial with concealed pre-setting ring. Very precise due to factory calibration.
For potable water circulation systems.

Approvals	DVGW approved, conforms with KTW requirements
Materials	Valve housing and all parts with contact to the flow made of corrosion resistant red bronze
Body pattern	Y-pattern
Pre-setting	yes
Position indication	Visible, digital pre-setting display with concealed pre-setting ring
Automatic balancing support	yes
Draining/filling support	yes
Integrated non-return device	no
Max. media temperature	130 °C
Static pressure	PN16
Additional description	Suitable connections see 'Connections for Alwa-valves'.

Alwa-Kombi-4 with external threads

DN size mm	Port diameter inch	Connection size mm	Port connection type	Kvs value	Type
15	G3/4	–	external threads	2,7	**V1810X0015**
20	G1	–	external threads	6,4	**V1810X0020**
25	G1 1/4	–	external threads	6,8	**V1810X0025**
32	G1 1/2	–	external threads	16	**V1810X0032**
40	G1 3/4	–	external threads	16	**V1810X0040**

Alwa-Kombi-4 with internal threads

DN size mm	Port diameter inch	Connection size mm	Port connection type	Kvs value	Type
15	R1/2	–	internal threads	2,7	**V1810Y0015**
20	R3/4	–	internal threads	6,4	**V1810Y0020**
25	R1	–	internal threads	6,8	**V1810Y0025**
32	R1 1/4	–	internal threads	16	**V1810Y0032**
40	R1 1/2	–	internal threads	16	**V1810Y0040**

Alwa-Kombi-4 with fitted Mapress fittings

DN size mm	Port diameter inch	Connection size mm	Port connection type	Kvs value	Type
15	–	15	Mapress fittings	2,7	**V1816Y0015**
15	–	18	Mapress fittings	2,7	**V1816Y0018**
20	–	22	Mapress fittings	6,4	**V1816Y0020**
25	–	28	Mapress fittings	6,8	**V1816Y0025**
32	–	35	Mapress fittings	16	**V1816Y0032**
40	–	42	Mapress fittings	16	**V1816Y0040**

Alwa-Kombi-4 with fitted Sanpress fittings

DN size mm	Port diameter inch	Connection size mm	Port connection type	Kvs value	Type
15	–	15	Sanpress fittings	2,7	**V1817Y0015**
15	–	18	Sanpress fittings	2,7	**V1817Y0018**
20	–	22	Sanpress fittings	6,4	**V1817Y0020**
25	–	28	Sanpress fittings	6,8	**V1817Y0025**
32	–	35	Sanpress fittings	16	**V1817Y0032**
40	–	42	Sanpress fittings	16	**V1817Y0040**

Accessories

Temperature-controlled actuator for 50...60 degree C (122...140 degree F) temperature range, conforms with DVGW, W551 and W552	**VA2400A002**
Temperature-controlled actuator for 40...65 degree C (104...149 degree F) temperature range	**VA2400B002**
Draining adapter	**VA3400A001**
Thermometer	**TH07K**
Insulation shells, for valves DN10 and DN15	**VA2510C015**
Insulation shells, for valves DN20	**VA2510C020**
Insulation shells, for valves DN25	**VA2510C025**
Insulation shells, for valves DN32	**VA2510C032**
Insulation shells, for valves DN40	**VA2510C040**
Insulation shells, for valves DN50	**VA2510C050**
Sampling valve. For all sizes. Only in conjunction with drain adapter VA3400A001	**VA3400C001**

Alwa-KFR (V4120) Shutoff valve with integrated backflow preventer

The Alwa-KFR is used as shut-off valve with backflow preventer in potable water installations. The downstream installation is isolated by shutting off the valve with the handwheel. The integral backflow preventer with an opening pressure of <=10 mbar stops water from flowing back through the valve. The valve insert with integrated backflow preventer is available as spare part and fits into all valve housings with dimensions according to DVGW so that normal shut-off valves can be upgrated to shut-off valves with backflow preventer. Alwa-KFR valves are available with various pipe connections. Alwa-K-KFR valves are equipped with larger external threads specially suitable for pipe connections of various plastic pipes. Valves with draining facility allow draining of the system over the valve.
For potable water systems.

Approvals	Alwa-KFR are DVGW-certified under registration-no. NW-6130AS2114 and low noise according to DIN 4109.
Materials	All parts with contact to the flow made of corrosion resistant red bronze, stainless steel or plastic
Body pattern	Y-pattern
Integrated non-return device	yes
Max. media temperature	90 °C
Static pressure	PN16
Additional description	Suitable connections see 'Connections for Alwa-valves'.

Alwa-KFR with internal threads

DN size mm	Port diameter inch	Port connection type	Kvs value	Type
15	R1/2	internal threads	5,1	**V4120YY015**
20	R3/4	internal threads	10,6	**V4120YY020**
25	R1	internal threads	17,1	**V4120YY025**
32	R1 1/4	internal threads	29	**V4120YY032**
40	R1 1/2	internal threads	35,1	**V4120YY040**
50	R2	internal threads	64,5	**V4120YY050**

Alwa-KFR with external threads

DN size mm	Port diameter inch	Port connection type	Kvs value	Type
15	G3/4	external threads	5,1	**V4120XX015**
20	G1	external threads	10,6	**V4120XX020**
25	G1 1/4	external threads	17,1	**V4120XX025**
32	G1 1/2	external threads	29	**V4120XX032**
40	G1 3/4	external threads	35,1	**V4120XX040**
50	G2 3/8	external threads	64,5	**V4120XX050**
65	G3	external threads	88,5	**V4120XX065**
80	G3 1/2	external threads	129	**V4120XX080**

Alwa-KFR with internal thread on inlet and external thread on outlet

DN size mm	Port diameter inch	Port connection type	Kvs value	Type
15	R1/2+G3/4	internal and external threads	5,1	**V4120YX015**
20	R3/4+G1	internal and external threads	10,6	**V4120YX020**
25	R1+G1 1/4	internal and external threads	17,1	**V4120YX025**
32	R1 1/4+G1 1/2	internal and external threads	29	**V4120YX032**
40	R1 1/2+G1 3/4	internal and external threads	35,1	**V4120YX040**
50	R2+G2 3/8	internal and external threads	64,5	**V4120YX050**

Alwa-KFR draining valve with chain and cap

DN size mm	Port diameter inch	Port connection type	Kvs value	Type
15	R1/2	internal threads	5,1	**V4119YX015**
20	R3/4	internal threads	10,6	**V4119YX020**

Alwa-K-KFR with external threads for plastic pipe

DN size mm	Port diameter inch	Port connection type	Kvs value	Type
15	G1	external threads	5,1	**V4120KK015**
20	G1 1/4	external threads	10,6	**V4120KK020**
25	G1 1/2	external threads	17,1	**V4120KK025**
32	G2	external threads	29	**V4120KK032**
40	G2 1/4	external threads	35,1	**V4120KK040**
50	G2 3/4	external threads	64,5	**V4120KK050**

Alwa-F-KFR with flanges, DN15 to DN80 with blind plug, DN100 with closed valve body

DN size mm	Port diameter inch	Port connection type	Kvs value	Type
15	–	flanges	5,1	**V4120FF015**
20	–	flanges	10,6	**V4120FF020**
25	–	flanges	17,1	**V4120FF025**
32	–	flanges	29	**V4120FF032**
40	–	flanges	35,1	**V4120FF040**
50	–	flanges	64,5	**V4120FF050**
65	–	flanges	132	**V4120FF065**
80	–	flanges	193	**V4120FF080**
100	–	flanges	251	**V4120FF100**

Service parts

Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN15	**VS1401B015**
Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN20	**VS1401B020**
Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN25	**VS1401B025**
Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN32	**VS1401B032**
Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN40	**VS1401B040**
Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN50	**VS1401B050**
Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN65 (opening pressure 150 mbar)	**VS1401A065**
Valve insert with integrated backflow preventer for all valve housings to DVGW, for DN80 (opening pressure 150 mbar)	**VS1401A080**
Handwheel, red, for DN15 to DN20	**VS2400B050**
Handwheel, red, for DN25 to DN50	**VS2400B080**
Handwheel, red, for DN65 to DN80	**VS2400B120**

Accessories

Draining valve, for DN15, DN20 and DN25	**VA3401A008**
Draining valve, for DN32, DN40, DN50, DN65 and DN80	**VA3401A010**
Insulation shells, for valves DN15	**VA2510C015**
Insulation shells, for valves DN20	**VA2510C020**
Insulation shells, for valves DN25	**VA2510C025**
Insulation shells, for valves DN32	**VA2510C032**
Insulation shells, for valves DN40	**VA2510C040**
Insulation shells, for valves DN50	**VA2510C050**
Sampling valve with connection size G1/4 for building valves up to DN25	**VA4250A008**
Sampling valve with connection size G3/8 for building valves from DN32 to DN80	**VA4250A010**

Thermostats

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Honeywell

Electronic thermostats (SmartTemp)

Electronic thermostats, with LCD display for the field of plant construction, fluidics, process technology, and pneumatics, as well as in the monitoring and control of heating elements, furnaces, heating units, and process temperatures, as well as for applications in the field of frost protection. Models available with the following output types:

- all models: switch output open collector; 15...36 Vdc, 250 mA
- TST-series: transmitter output; 0...10 Vdc or 4...20 mA
- TST...R-series: relay output with gold plated SPDT contact

Protection class	IP65
Housing material	polybutylene terephtalate (PBT)
Ambient temperature	-20 ... 60 °C
Optional functions	• **Applicable parameter settings:** • switching Set / Reset points • filters • analog output range • electrical drag indicator • **Applicable configurations:** • Max-Min, Window monitor • Analog output signal • Temperature unit • Simulation mode

Switch + Transmitter, TST...-models

Temp. setpoint range °C	Immersion depth mm	Model	Type
-50 ... 50	100	line length: built on	**TST050G12100**
-50 ... 50	250	line length: built on	**TST050G12250**
-50 ... 200	100	line length: built-on neck-tube	**TST200G12100**
-50 ... 200	250	line length: built-on neck-tube	**TST200G12250**
-50 ... 200	–	line length: external	**TST200EPT1K**
-50 ... 400	–	line length: external	**TST400EPT1K**

Switch + Transmitter + Relay, TST...R-models

Temp. setpoint range °C	Immersion depth mm	Model	Type
-50 ... 50	100	line length: built on	**TST050G12100-R**
-50 ... 50	250	line length: built on	**TST050G12250-R**
-50 ... 200	100	line length: built-on neck-tube	**TST200G12100-R**
-50 ... 200	250	line length: built-on neck-tube	**TST200G12250-R**
-50 ... 200	–	line length: external	**TST200EPT1K-R**
-50 ... 400	–	line length: external	**TST400EPT1K-R**

Accessories / Connectors for plug 1 + 2 (OC and analog outputs) / Plug 3 (relay outputs ST4)

5-prong M12 plug connector, straight version	**ST12-5-G**
5-prong M12 plug connector, angled version	**ST12-5-A**
4-prong M12 plug connector, straight version	**ST12-4-G**
4-prong M12 plug connector, angled version	**ST12-4-A**
4-prong M12 plug connector, straight version with 2 m cable	**ST12-4-GK**
4-prong M12 plug connector, angled version with 2 m cable	**ST12-4-AK**

Accessories / Immersion Tubes

G1/2, cylindrical	**G12-100**
G1/2, cylindrical	**G12-250**
R1/2, conical	**R12-100**
R1/2, conical	**R12-250**
N1/2, conical NPT	**N12-100**
N1/2, conical NPT	**N12-250**

Accessories / Other

Wall mounting kit	**AST1**
4-prong M8 plug according to DIN IEC 60947-5-2	**ST8-4**

External Sensors

100 mm immersion depth	**P2-TVS12-400100**
250 mm immersion depth	**P2-TVS12-400250**

Frost protection thermostat with capillary (T69)

Line voltage frost protection thermostat for reheaters in air conditioning systems, and heat exchangers in cooling systems.

Housing material	ABS and corrosion protected steel (IP65 Makrolon)
Ambient temperature	-15 ... 55 °C
Switch function/capacity	SPDT 24..250 Vac, 15(8)A
Thermostat application	frost protection thermostat
Temp. setpoint range	-10 ... 12 °C
Differential fixed	1 K
Additional description	For thermostats with capillary lengths 3m and 6m the DBZ-05 package is included.

Temperature element	Capillary tube length m	Mechanical lock/reset	Protection class	Type
capillary with bulb	1,8	manual	IP54	**T6950A1000**
capillary	3	manual	IP54	**T6950A1018**
capillary	6	manual	IP54	**T6950A1026**
capillary with bulb	1,8	auto	IP54	**T6951A1009**
capillary	3	auto	IP54	**T6951A1017**
capillary	6	auto	IP54	**T6951A1025**
capillary with bulb	1,8	manual	IP65	**T6960A1008**
capillary	3	manual	IP65	**T6960A1016**
capillary	6	manual	IP65	**T6960A1024**
capillary with bulb	1,8	auto	IP65	**T6961A1007**
capillary	3	auto	IP65	**T6961A1015**
capillary	6	auto	IP65	**T6961A1023**

Accessories

Fastening clamps 5 pieces	**DBZ-05**

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Room thermostat, industrial, 1/2 stages (T6120)

Line voltage thermostat for control of heating-, cooling-, and ventilation systems in industrial areas.

Housing material	glass fibre reinforced ABS
Setpoint device	knob
Thermostat application	room thermostat
Differential fixed	1 K
Additional description	T6120B is dual stage, with 2..10 K difference between the stages.

Temp. setpoint range °C	Switch function/capacity	Protection class	Type
0 ... 60	SPDT 250Vac 10A (1,5A)	IP54	**T6120A1005**
-30 ... 30	SPDT 250Vac 15A (8A)	IP65	**T6120B1003**

Room thermostat for industrial permises (TRM)

Room thermostats are suitable for industrial plant, for greenhouses, cowsheds and warehouses, also for monitoring the maximum temperature in switchgear cabinets and relay stations.
Line voltage thermostat for control of heating-, cooling-, and ventilation systems in industrial areas.

Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	die cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 70 °C
Switch function/capacity	SPDT 250 Vac, 8(5) A
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, IP65, capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA
Thermostat application	room thermostat, industrial
Additional description	Including mounting bracket typenumber H1.

Fixed switching difference

Temp. setpoint range °C	Differential fixed K	Differential setting range K	Max. perm. temp. at sensor °C	Type
-20 ... 20	1	–	70	**TRM022**
0 ... 40	1	–	70	**TRM40**
10 ... 50	1	–	70	**TRM150**

Adjustable switching difference

Temp. setpoint range °C	Differential fixed K	Differential setting range K	Max. perm. temp. at sensor °C	Type
0 ... 40	–	3 ... 10	70	**TRMV40**
10 ... 50	–	3 ... 10	70	**TRMV150**

Accessories

Cover for outdoor application	**S1**
Sealing	**P2**
Heat conducting compound	**WLP1**

Capillary tube thermostat with sensing bulb (TAM)

The sensor cartridge at the end of the capillary tube is the actual active (temperature sensitive) part of the sensor. Changes in temperature on the capillary tube have no effect on the switching point. Pressuretight installation of the sensor in pressure vessels of all kinds is possible with the aid of immersion tubes.

Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	die-cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 70 °C
Switch function/capacity	SPDT 250 Vac, 8(5) A
Capillary tube length	1,5 m
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, IP65, capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA
Thermostat application	capillary tube thermostat

Temp. setpoint range °C	Differential fixed K	Max. perm. temp. at sensor °C	Type
-20 ... 20	1,5	110	**TAM022**
10 ... 50	1,5	110	**TAM150**
40 ... 90	2	125	**TAM490**
80 ... 130	2	150	**TAM813**

Immersion wells

Red brass well G1/2" PN25, immersion/total length 135/151 mm	**R1/MS**
Stainless steel well G1/2" PN63, immersion/total length 135/151 mm	**R1/Nst**
Red brass well G1/2" PN25, immersion/total length 220/236 mm	**R2/MS**
Stainless steel well G1/2" PN63, immersion/total length 220/236 mm	**R2/Nst**
Red brass well G1/2" PN25, immersion/total length 500/516 mm	**R3/MS**
Capillary tube bushing with 3 mm capillary tube screw in thread G1/2, not pressure-tight	**R4**
Capillary tube bushing, rubber plug for 3 mm capillary tube, bore diameter 10 mm, not pressure-tight	**R5**

Immersion tubes NPT

Red brass well G1/2" NPT PN25, immersion/total length 135/151 mm	**RN1/MS**
Stainless steel well G1/2" NPT PN63, immersion/total length 135/151 mm	**RN1/NST**
Red brass well G1/2" NPT PN25, immersion/total length 220/236 mm	**RN2/MS**
Stainless steel well G1/2" NPT PN63, immersion/total length 220/236 mm	**RN2/NST**

More Accessories

Wall bracket for fixing the sensor cartridge	**H2**
Sealing	**P2**
Heat conducting compound	**WLP1**

Rod thermostat for vessels (TX)

Rod thermostats can be installed as immersion thermostats in pipelines and containers and for monitoring temperature in air ducts. The suitable immersion tube has to be chosen according to the application.

Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	die cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 70 °C
Switch function/capacity	SPDT 250 Vac, 8(5) A
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP 65 • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, IP65, capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA
Thermostat application	immersion rod thermostat

Immersion length 135 mm

Temp. setpoint range (°C)	Immersion depth (mm)	Differential fixed (K)	Max. perm. temp. at sensor (°C)	Type
-20 ... 30	135	1,5	110	**TX023**
10 ... 50	135	1,5	110	**TX150**
40 ... 90	135	2,5	125	**TX490**
80 ... 130	135	4	150	**TX813**

Immersion length 220 mm

Temp. setpoint range (°C)	Immersion depth (mm)	Differential fixed (K)	Max. perm. temp. at sensor (°C)	Type
-20 ... 30	220	1,5	110	**TXB023**
10 ... 50	220	1,5	110	**TXB150**
40 ... 90	220	2,5	125	**TXB490**
80 ... 130	220	4	150	**TXB813**

Accessories

Cover for outdoor application	**S1**
Sealing	**P2**
Heat conducting compound	**WLP1**

Immersion wells

Red brass well G1/2" PN25, immersion/total length 135/151 mm	**R10/MS**
Red brass well G1/2" PN25, immersion/total length 220/236 mm	**R20/MS**
Stainless steel well G1/2" PN63, immersion/total length 135/151 mm	**R10/NST**
Stainless steel well G1/2" PN63, immersion/total length 220/236 mm	**R20/NST**

Immersion wells NPT

Red brass well 1/2"NPT PN25, immersion/total length 135/151 mm	**RN10/MS**
Red brass well 1/2"NPT PN25, immersion/total length 220/236 mm	**RN20/MS**
Stainless steel well 1/2"NPT PN63, immersion/total length 135/151 mm	**RN10/NST**
Stainless steel well 1/2"NPT PN63, immersion/total length 220/236 mm	**RN20/NST**

Immersion pipes for airducts

Immersion pipe, chrome plated steel, immersion/total length 25/40 mm	**R6**
Immersion pipe, chrome plated steel, immersion/total length 117/132 mm	**R7**

Thermostats, component-tested

Safety limiting thermostat, with hand reset (STB1)

Sealing pipe thermostat with well.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPST 230 Vac, 10 A
Mechanical lock/reset	mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval STB 89 501
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, reset outside
Temp. setpoint range	60 ... 130 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	150 °C

	Type
	STB1F

Accessories

Steel well R1/2" x 150 mm	**T4NST**

Safety strap-on thermostat (temperature limiter) for floor heating applications (STB)

The STB Servies of universal strap-on thermostats are designed for floor heating applications. They are suitable for use as strap-on, wall-mounted, or (with optional immersion well) immersion thermostat. Devices of the STB Series likewise measure temperature. If the sensor temperature exceeds the set value, a snap-action switch opens, interrupting the electrical circuit, and remains open until reset manually. (Also, if the sensor temperatuire drops to below approx. - 20 degrees C, the snap-action switch opens, but closes again automatically after the temperature rises again.) To manually reset the device, the sensor temperature must drop by more than approx. 10 K.

Electrical connection	M20x1,5
Protection class	IP54
Housing material	PA, ABS, PMMA
Ambient temperature	0 ... 80 °C
Switch function/capacity	max: 230Vac, 12 (2,5) A / min: 24 Vac/dc, 100 mA
Mechanical lock/reset	manual reset
Setpoint device	knob
Certificates	CE, UL, PED, DIN EN 14597
Thermostat application	strap-on thermostat
Differential fixed	10 K

Temp. setpoint range °C	Type
20 ... 80	**STB2080F**
70 ... 130	**STB70130F**

Accessories

Immersion Well, G1/2	**STG12-100F**

Safety limiting thermostat with setpoint knob, shut-off (STBTR)

Sealing pipe thermostat with well.
For safety temperature control, and in addition high temperature shut-off functionality.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval TR / STB 90 001
Thermostat application	immersion tube therm. + controller
Thermostat functions	temp. setting inside + outside, reset outside
Temp. setpoint range	30 ... 110 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	130 °C
Additional description	Safety control switching differential approx. 4% of setpoint value. Shut-off temperature: 30..110 °C adjustable.

	Type
	STB+TRF
Accessories	
Steel well R1/2" x 150 mm	T5NST

Safety limiting thermostat, with shut-off (STBTW)

Sealing pipe thermostat with well.
For safety temperature control, and in addition high temperature shut-off functionality.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval TW / STB 90 401
Thermostat application	immersion tube therm. + monitor
Thermostat functions	temp. setting inside, reset outside
Temp. setpoint range	30 ... 110 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	130 °C
Additional description	Safety control switching differential approx. 3..4% of setpoint value. Shut-off temperature: 30..110 °C adjustable.

	Type
	STB+TWF
Accessories	
Steel well R1/2" x 150 mm	T5NST

Thermostats, component-tested

Safety limiting thermostat, hand reset, large range (STW1)

Sealing pipe thermostat with well.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPDT 230 Vac, 10 A
Mechanical lock/reset	no mechanical lock
Certificates	TUEV-approval STW (STB)89 401 S
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, reset inside
Temp. setpoint range	20 ... 150 °C
Mounting place	in pipe
Immersion depth	150 mm
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C
Additional description	Fixed switching differential approx. 4% of setpoint value.

	Type
	STW1F

Accessories

Steel well R1/2" x 150 mm	**T4NST**

Safety strap-on thermostat for floor heating applications (STW)

The STW Servies of universal strap-on thermostats are designed for floor heating applications. They are suitable for use as strap-on, wall-mounted, or (with optional immersion well) immersion thermostat. Devices of the STW Series measure temperature. If the sensor temperature exceeds the set value, a snap-action switch opens, interrupting the electrical circuit. As soon as the sensor temperature drops by more than 10 K, the snap-action switch again closes automatically. (Also, if the sensor temperature drops to below approx. 20 degrees C, the snap-action switch opens, but closes again automatically after the temperature rises again.

Electrical connection	M20x1,5
Protection class	IP54
Housing material	PA, ABS, PMMA
Ambient temperature	0 ... 80 °C
Switch function/capacity	max: 230Vac, 12 (2,5) A min: 24 Vad/dc, 100 mA
Mechanical lock/reset	automatic reset
Setpoint device	knob
Certificates	CE, UL, PED, DIN EN 14597
Thermostat application	strap-on thermostat
Differential fixed	10 K

Temp. setpoint range °C	Type
20 ... 80	**STW2080F**
70 ... 130	**STW70130F**

Accessories

Immerson well, G1/2, 100 mm	**STG12-100F**

Safety limiting thermostat with setpoint knob, shut-off, automatic reset (STWTR)

Sealing pipe thermostat with well.
For safety temperature control, and in addition high temperature shut-off functionality.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, automatic reset
Immersion depth	150 mm
Certificates	TUEV-approval TR / STW (STB)89 901 S
Thermostat application	immersion tube therm. + controller
Thermostat functions	temp. setting inside + outside, reset inside
Temp. setpoint range	20 ... 150 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C
Additional description	Safety control switching differential approx. 4% of setpoint value. Shut-off temperature: 20..150 °C adjustable.

	Type
	STW+TRF

Accessories

Steel well R1/2" x 150 mm	T5NST

Safety limiting thermostat, automatic reset (TWP1)

Sealing pipe thermostat with well.
The temperature monitor can be used for heating systems according to DIN 4751 for steam and hot water systems and for district heating systems.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPDT 230 Vac, 10 A
Mechanical lock/reset	no mechanical lock
Immersion depth	100 mm
Certificates	TUEV-approval TW 89 201
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, automatic reset
Temp. setpoint range	20 ... 150 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C

	Type
	TWP1F

Accessories

Steel well R1/2" x 150 mm	T4NST

Thermostats with ATEX approval

Room thermostat (Ex) for industrial permises (Ex-TRM)

Room thermostats are suitable for industrial plant, for greenhouses, cowsheds and warehouses, also for monitoring the maximum temperature in switchgear cabinets and relay stations.
Line voltage thermostat for control of heating-, cooling-, and ventilation systems in industrial areas.
Degree of Ex-protection: Ex II 2 G/D EEx de IIC T6 IP65 T80 °C.

Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	die cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 60 °C
Switch function/capacity	SPDT 250 Vac, 3(2) A
Certificates	ATEX-approval No. PTB 02 ATEX 1121
Thermostat application	room thermostat
Differential fixed	1 K
Max. perm. temp. at sensor	70 °C
Additional description	Including mounting bracket typenumber H1.

Temp. setpoint range °C	Type
-20 ... 20	**EX-TRM022**
0 ... 40	**EX-TRM40**
10 ... 50	**EX-TRM150**

Accessories

Cover for outdoor application	**S1**
Sealing	**P2**
Heat conducting compound	**WLP1**

Capillary tube thermostat (Ex) with sensing bulb (Ex-TAM)

The sensor cartridge at the end of the capillary tube is the actual active (temperature sensitive) part of the sensor. Changes in temperature on the capillary tube have no effect on the switching point. Pressuretight installation of the sensor in pressure vessels of all kinds is possible with the aid of immersion tubes. Degree of Ex-protection: Ex II 2 G/D EEx de IIC T6 IP65 T80 °C.

Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	die-cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 60 °C
Switch function/capacity	SPDT 250 Vac, 3(2) A
Capillary tube length	1,5 m
Certificates	ATEX-approval No. PTB 02 ATEX 1121
Thermostat application	capillary tube thermostat

Temp. setpoint range °C	Differential fixed K	Max. perm. temp. at sensor °C	Type
-20 ... 20	1,5	110	**EX-TAM022**
10 ... 50	1,5	110	**EX-TAM150**
40 ... 90	2	125	**EX-TAM490**
80 ... 130	2	150	**EX-TAM813**

Immersion wells

Red brass well G1/2" PN25, immersion/total length 135/151 mm	**R1/MS**
Stainless steel well G1/2" PN63, immersion/total length 135/151 mm	**R1/NST**
Red brass well G1/2" PN25, immersion/total length 220/236 mm	**R2/MS**
Stainless steel well G1/2" PN63, immersion/total length 220/236 mm	**R2/NST**
Red brass well G1/2" PN25, immersion/total length 500/516 mm	**R3/MS**
Capillary tube bushing with 3 mm capillary tube screw in thread G1/2, not pressure-tight	**R4**
Capillary tube bushing, rubber plug for 3 mm capillary tube, bore diameter 10 mm, not pressure-tight	**R5**

Immersion tubes NPT

Red brass well G1/2" NPT PN25, immersion/total length 135/151 mm	**RN1/MS**
Stainless steel well G1/2" NPT PN63, immersion/total length 135/151 mm	**RN1/NST**
Red brass well G1/2" NPT PN25, immersion/total length 220/236 mm	**RN2/MS**
Stainless steel well G1/2" NPT PN63, immersion/total length 220/236 mm	**RN2/NST**

More Accessories

Wall bracket for fixing the sensor cartridge	**H2**
Sealing	**P2**
Heat conducting compound	**WLP1**

Rod thermostat (Ex) for vessels (Ex-TX)

Rod thermostats can be installed as immersion thermostats in pipelines and containers and for monitoring temperature in air ducts. The suitable immersion tube has to be chosen according to the application. Degree of Ex-protection: Ex II 2 G/D EEx de IIC T6 IP65 T80 °C.

Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	die cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 60 °C
Switch function/capacity	SPDT 250 Vac, 3(2) A
Certificates	ATEX-approval No. PTB 02 ATEX 1121
Thermostat application	immersion rod thermostat

Immersion length 135 mm

Temp. setpoint range °C	Immersion depth mm	Differential fixed K	Max. perm. temp. at sensor °C	Type
-20 ... 30	135	1,5	110	**EX-TX023**
10 ... 50	135	1,5	110	**EX-TX150**
40 ... 90	135	2,5	125	**EX-TX490**

Immersion length 220 mm

Temp. setpoint range °C	Immersion depth mm	Differential fixed K	Max. perm. temp. at sensor °C	Type
-20 ... 30	220	1,5	110	**EX-TXB023**
10 ... 50	220	1,5	110	**EX-TXB150**
40 ... 90	220	2,5	125	**EX-TXB490**

Accessories

Cover for outdoor application	**S1**
Sealing	**P2**
Heat conducting compound	**WLP1**

Immersion wells

Red brass well G1/2" PN25, immersion/total length 135/151 mm	**R10/MS**
Red brass well G1/2" PN25, immersion/total length 220/236 mm	**R20/MS**
Stainless steel well G1/2" PN63, immersion/total length 135/151 mm	**R10/NST**
Stainless steel well G1/2" PN63, immersion/total length 220/236 mm	**R20/NST**

Immersion wells NPT

Red brass well 1/2"NPT PN25, immersion/total length 135/151 mm	**RN10/MS**
Red brass well 1/2"NPT PN25, immersion/total length 220/236 mm	**RN20/MS**
Stainless steel well 1/2"NPT PN63, immersion/total length 135/151 mm	**RN10/NST**
Stainless steel well 1/2"NPT PN63, immersion/total length 220/236 mm	**RN20/NST**

Immersion pipes for airducts

Immersion pipe, chrome plated steel, immersion/total length 25/40 mm	**R6**
Immersion pipe, chrome plated steel, immersion/total length 117/132 mm	**R7**

Pressure switches — Page

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Honeywell

Electronic Pressure switch for liquid, high viscosity/roiled liquid (SmartPress)

Electronic Pressure switch, with LCD display for the field of plant construction, fluidics, process technology, and pneumatics, as well as in the monitoring and control of pumps and compressors. Models available with the following output types:

- all models: switch output open collector; 14..36 Vdc, 250 mA
- PST -series: transmitter output; 0..10 Vdc or 4..20 mA
- PST..R -series: relay output with gold plated SPDT contact

Protection class	IP65
Housing material	Polybutylene terephtalate (PBT)
Sensing element material	1.4571 + 1.4435
Media temp.	-20 ... 100 °C
Media temp. limit	Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap)
Ambient temperature	-20 ... 60 °C
Switch function/capacity	PST-models: Open collector switch max. 250 mA dc at 14 ... 36 Vdc. PST..R-models with relay contact output, 1 x SPDT, material silver gold plated. Capacity resistive: 24 Vdc, 60 mA / 230 Vac, 6,5 mA. With bigger loads, the gold layer will disappear, the capacity with the silver contacts is: 230 Vac 3(1) A.
Additional description	• **Applicable parameter settings:** • switching Set / Reset points • filters • analog output range • electrical drag indicator • **Applicable configurations:** • Max-Min, Window monitor • Analog output signal • Pressure unit • Simulation mode

Switch + Transmitter, PST ...-models

Pressure range bar	Max. pressure bar	Kind of pressure	Type
-1 ... 1	6	vacuum, relative	**PSTV01RG34F**
0 ... 0,25	1	overpressure, relative	**PSTM250RG34F**
0 ... 0,4	2	overpressure, relative	**PSTM400RG34F**
0 ... 0,6	2	overpressure, relative	**PSTM600RG34F**
0 ... 1	6	overpressure, relative	**PST001RG34F**
0 ... 1,6	6	overpressure, relative	**PST002RG34F**
0 ... 4	12	overpressure, relative	**PST004RG34F**
0 ... 10	30	overpressure, relative	**PST010RG34F**
0 ... 25	75	overpressure, relative	**PST025RG34F**
0 ... 2	6	absolute	**PST002AG34F**
0 ... 10	30	absolute	**PST010AG34F**

Switch + Transmitter + Relay output, PST..R -models

Pressure range bar	Max. pressure bar	Kind of pressure	**Type**
-1 ... 1	6	vacuum, relative	**PSTV01RG34F-R**
0 ... 0,25	1	overpressure, relative	**PSTM250RG34F-R**
0 ... 0,4	2	overpressure, relative	**PSTM400RG34F-R**
0 ... 0,6	2	overpressure, relative	**PSTM600RG34F-R**
0 ... 1	6	overpressure, relative	**PST001RG34F-R**
0 ... 1,6	6	overpressure, relative	**PST002RG34F-R**
0 ... 4	12	overpressure, relative	**PST004RG34F-R**
0 ... 10	30	overpressure, relative	**PST010RG34F-R**
0 ... 25	75	overpressure, relative	**PST025RG34F-R**
0 ... 2	6	absolute	**PST002AG34F-R**
0 ... 10	30	absolute	**PST010AG34F-R**

Accessories / Connectors for plug 1 + 2 (OC and analog outputs) / Plug 3 (relay outputs ST4) / Syphons

5-prong M12 plug connector, straight version	**ST12-5-G**
5-prong M12 plug connector, angled version	**ST12-5-A**
4-prong M12 plug connector, straight version	**ST12-4-G**
4-prong M12 plug connector, angled version	**ST12-4-A**
4-prong M12 plug connector, straight version with 2 m cable	**ST12-4-GK**
4-prong M12 plug connector, angled version with 2 m cable	**ST12-4-AK**
Plug protection cap, IP65	**STA12**
Syphons for high temperature, steel, U-shape. For more accessories, see Accessories for Pressure Switches / Transmitters)	**UB430B**

Electronic Pressure switch for gas, low viscosity liquid (SmartPress)

Electronic Pressure switch, with LED display for the field of plant construction, fluidics, process technology, and pneumatics, as well as in the monitoring and control of pumps and compressors. Models available with the following output types:

- all models: switch output open collector; 14..36 Vdc, 250 mA
- PST -series: transmitter output; 0..10 Vdc or 4..20 mA
- PST..R -series: relay output with gold plated SPDT contact

Protection class	IP65
Housing material	Polybutylene terephtalate (PBT)
Media temp.	-20 ... 100 °C
Media temp. limit	Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap)
Ambient temperature	-20 ... 60 °C
Switch function/capacity	PST..R-models with relay contact output, 1 x SPDT, material silver gold plated. Capacity resistive: 24 Vdc, 60 mA / 230 Vac, 6,5 mA. With bigger loads, the gold layer will disappear, the capacity with the silver contacts is: 230 Vac 3(1) A.
Sensing element material	1.4571 + 1.4542
Additional description	**Applicable parameter settings:** • switching Set / Reset points • filters • analog output range • electrical drag indicator • **Applicable configurations:** • Max-Min, Window monitor • Analog output-signal • Pressure unit • Simulation mode

Switch + Transmitter output, PST-models

Pressure range bar	Max. pressure bar	Output signal	Kind of pressure	Type
-1 ... 1	6	0..10Vdc / 4..20 mA + switch	vacuum, relative	**PSTV01RG12S**
0 ... 0,25	1	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM250RG12S**
0 ... 0,4	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM400RG12S**
0 ... 0,6	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM600RG12S**
0 ... 1,6	6	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST002RG12S**
0 ... 4	12	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST004RG12S**
0 ... 10	30	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST010RG12S**
0 ... 25	75	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST025RG12S**
0 ... 60	180	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST060RG12S**
0 ... 100	300	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST100RG12S**
0 ... 250	500	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST250RG12S**
0 ... 600	1000	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST600RG12S**
0 ... 2	6	0..10Vdc / 4..20 mA + switch	absolute	**PST002AG12S**
0 ... 10	30	0..10Vdc / 4..20 mA + switch	absolute	**PST010AG12S**

Switch + Transmitter + Relay output, PST..R -models

Pressure range bar	Max. pressure bar	Output signal	Kind of pressure	Type
-1 ... 1	6	0..10Vdc / 4..20 mA + switch + relay	vacuum, relative	**PSTV01RG12S-R**
0 ... 0,25	1	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM250RG12S-R**
0 ... 0,4	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM400RG12S-R**
0 ... 0,6	2	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PSTM600RG12S-R**
0 ... 1,6	6	0..10Vdc / 4..20 mA + switch	overpressure, relative	**PST002RG12S-R**
0 ... 4	12	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST004RG12S-R**
0 ... 10	30	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST010RG12S-R**
0 ... 25	75	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST025RG12S-R**
0 ... 60	180	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST060RG12S-R**
0 ... 100	300	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST100RG12S-R**
0 ... 250	500	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST250RG12S-R**
0 ... 600	1000	0..10Vdc / 4..20 mA + switch + relay	overpressure, relative	**PST600RG12S-R**
0 ... 2	6	0..10Vdc / 4..20 mA + switch + relay	absolute	**PST002AG12S-R**
0 ... 10	30	0..10Vdc / 4..20 mA + switch + relay	absolute	**PST010AG12S-R**

Accessories / Connectors for plug 1 + 2 (OC and analog outputs) / Plug 3 (relay outputs ST4) / Syphons

5-prong M12 plug connector, straight version	**ST12-5-G**
5-prong M12 plug connector, angled version	**ST12-5-A**
4-prong M12 plug connector, straight version	**ST12-4-G**
4-prong M12 plug connector, angled version	**ST12-4-A**
4-prong M12 plug connector, straight version with 2 m cable	**ST12-4-A-GK**
4-prong M12 plug connector, angled version with 2 m cable	**ST12-4-A-AK**
Plug protection cap, IP65	**STA12**
Syphons for high temperature, steel, U-shape. for more accessories, see Accessories for Pressure Switches / Transmitters	**UB430B**

Electronic Pressure switch for gas and liquid (Smart DCM)

Electronic Pressure Switches are microprocessor-controlled pressure measurement devices for relative pressures of -1 to +1 bar and 0 to 40 bar. They are suitable for an extremely wide range of applications, including the precision recording, monitoring, and control of system pressure.
Features:

- Open-collector
- Configurable as min./max/window monitor
- Adjustable drop-in/drop-out delay
- Hysteresis defined by set-point and reset-point
- Baclit LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software

Media temp.	-20 ... 80 °C
Sensing element material	1.4571

Pressure Switch without HMI

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	**PSSRV1011-S**
0 ... 1	3	IP67	-20 ... 80	**PSSRB0011-S**
0 ... 4	12	IP67	-20 ... 80	**PSSRB0041-S**
0 ... 10	30	IP67	-20 ... 80	**PSSRB0101-S**
0 ... 16	48	IP67	-20 ... 80	**PSSRB0161-S**
0 ... 25	50	IP67	-20 ... 80	**PSSRB0251-S**
0 ... 40	80	IP67	-20 ... 80	**PSSRB0401-S**

Pressure Switch HMI

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP65	-20 ... 70	**PSHRV1011**
0 ... 1	3	IP65	-20 ... 70	**PSHRB0011**
0 ... 4	12	IP65	-20 ... 70	**PSHRB0041**
0 ... 10	30	IP65	-20 ... 70	**PSHRB0101**
0 ... 16	48	IP65	-20 ... 70	**PSHRB0161**
0 ... 25	50	IP65	-20 ... 70	**PSHRB0251**
0 ... 40	80	IP65	-20 ... 70	**PSHRB0401**

Accessory

Field configuration tool	**CFT1**

Electronic Differential Pressure Switches for gas and liquid (Smart DCM DIFF)

Electronic Differential Pressure Switches are microprocessor-controlled pressure measurement devices for a differential pressure range of 0 ... 20 bar. They are suitable for an extremely wide range of applications, including the precision recording, monitoring and control of system pressure. They come complete with an angled M12X1 plug and are mounted directly to the pipe via two G1/4" internal thread connections.
Features:

- Open-collector
- Configurable as min./max./window monitor
- LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software for better readability; HMI can be freely swiveled 310°
- Self-monitoring electronics
- Adjustable drop-in/drop-out delay

Media temp.	-20 ... 80 °C
Protection class	IP65
Ambient temperature	-20 ... 70 °C

Pressure Swith HMI

Pressure range bar	Max. pressure bar	Type
0 ... 0,1	0,9	**PSHDM1002**
0 ... 0,3	0,9	**PSHDM3002**
0 ... 1	3	**PSHDB0012**
0 ... 3	9	**PSHDB0032**
0 ... 6	21	**PSHDB0062**
0 ... 20	60	**PSHDB0202**

Pressure switch for liquid, gas (DCM)

For overpressure monitoring of non-aggressive liquids and gaseous media.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-307**: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 • **-217**: two microswitches, 1 plug, switching in succession, adjustable switching interval • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i

Fixed pressure hysteresis

Pressure adjustment range	Adjustable switching differential	Switching differential	Max. pressure	Sensing element material	Type
bar	bar	bar	bar		
0,04 ... 0,25	–	0,03	6	Copper + Brass	**DCM025**
0,1 ... 0,6	–	0,04	6	Copper + Brass	**DCM06**
0,2 ... 1,6	–	0,04	6	Copper + Brass	**DCM1**
0,2 ... 2,5	–	0,1	16	1.4104 + 1.4571	**DCM3**
0,5 ... 6	–	0,15	16	1.4104 + 1.4571	**DCM6**
0,5 ... 6	–	0,25	25	1.4104 + 1.4571	**DCM625**
1 ... 10	–	0,3	25	1.4104 + 1.4571	**DCM10**
3 ... 16	–	0,5	25	1.4104 + 1.4571	**DCM16**
4 ... 25	–	1	60	1.4104 + 1.4571	**DCM25**
8 ... 40	–	1,3	60	1.4104 + 1.4571	**DCM40**
16 ... 63	–	2	130	1.4104 + 1.4571	**DCM63**
0,04 ... 0,25	–	0,03	6	1.4104 + 1.4571	**DNM025**

Adjustable pressure hysteresis

Pressure adjustment range	Adjustable switching differential	Switching differential	Max. pressure	Sensing element material	Type
bar	bar	bar	bar		
0,04 ... 0,25	0,03 ... 0,4	–	6	Copper + Brass	**DCMV025**
0,1 ... 0,6	0,04 ... 0,5	–	6	Copper + Brass	**DCMV06**
0,2 ... 1,6	0,07 ... 0,55	–	6	Copper + Brass	**DCMV1**

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,2 ... 2,5	0,15 ... 1,5	–	16	1.4104 + 1.4571	**DCMV3**
0,5 ... 6	0,25 ... 2	–	16	1.4104 + 1.4571	**DCMV6**
1 ... 10	0,5 ... 2,8	–	25	1.4104 + 1.4571	**DCMV10**
3 ... 16	0,7 ... 3,5	–	25	1.4104 + 1.4571	**DCMV16**
4 ... 25	1,3 ... 6	–	60	1.4104 + 1.4571	**DCMV25**
8 ... 40	2,6 ... 6,6	–	60	1.4104 + 1.4571	**DCMV40**
16 ... 63	3 ... 10	–	130	1.4104 + 1.4571	**DCMV63**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure switch for liquid, gas, small range (DCM)

For overpressure monitoring of non-aggressive liquids and gaseous media.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i

Fixed pressure hysteresis

Pressure adjustment range mbar	Switching differential mbar	Max. pressure bar	Sensing element material	Type
1 ... 16	2	1	Perbunan + 1.4301	**DCM4016**
4 ... 25	2	1	Perbunan + 1.4301	**DCM4025**
10 ... 100	12	10	Perbunan + Brass	**DCM1000**
15 ... 60	10	12	1.4104 + 1.4571	**DCM506**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure switch for aggressive liquid, gas (DNS)

For monitoring and controlling pressures in devices of the chemical industry and in the process engineering as well as wherever the pressure of aggressive liquids and gases has to be monitored.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-307**: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 • **-217**: two microswitches, 1 plug, switching in succession, adjustable switching interval • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i
Sensing element material	1.4571

Fixed pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	**Type**
0,04 ... 0,25	–	0,03	6	**DNS025-201**
0,1 ... 0,6	–	0,04	6	**DNS06-201**
0,2 ... 1,6	–	0,06	6	**DNS1-201**
0,2 ... 2,5	–	0,1	16	**DNS3-201**
0,5 ... 6	–	0,15	16	**DNS6-201**
1 ... 10	–	0,3	16	**DNS10-201**
3 ... 16	–	0,5	25	**DNS16-201**

Standard Pressure Switches

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	**Type**
0,04 ... 0,25	0,06 ... 0,3	–	6	**DNS025-203**
0,1 ... 0,6	0,08 ... 0,4	–	6	**DNS06-203**
0,2 ... 1,6	0,1 ... 0,6	–	6	**DNS1-203**
0,2 ... 2,5	0,15 ... 1,5	–	16	**DNS3-203**
0,5 ... 6	0,25 ... 2	–	16	**DNS6-203**
1 ... 10	0,45 ... 2,5	–	16	**DNS10-203**
3 ... 16	0,8 ... 3,5	–	25	**DNS16-203**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Differential pressure switch for liquid, gas (DDCM)

For flow monitoring and differential pressure control of steam, gas, hot/cold water and automatic checking of filter plant.

Kind of pressure	differential pressure, relative
Pressure connection	internal thread G1/4
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-205**: maximum limiter with reclosing lock-out, interlocking with increasing pressure • **-206**: Minimum limiter with reclosing lock-out, interlocking with falling pressure • **-307**: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 (with the exception of DDCM252, 662, 1602, 6002) • **-217**: two microswitches, 1 plug, switching in succession, adjustable switching interval (with the exception of DDCM252, 662, 1602, 6002) • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,004 ... 0,025	0,002	0,5	Perbunan + Aluminium	**DDCM252**
0,01 ... 0,06	0,015	1,5	Perbunan + Aluminium	**DDCM662**
0,02 ... 0,16	0,02	3	Perbunan + Aluminium	**DDCM1602**
0,1 ... 0,6	0,035	3	Perbunan + Aluminium	**DDCM6002**
-0,1 ... 0,4	0,15	15	1.4305 + 1.4571	**DDCM014**
0,2 ... 1,6	0,13	15	1.4305 + 1.4571	**DDCM1**
1 ... 4	0,2	25	1.4305 + 1.4571	**DDCM4**
0,5 ... 6	0,2	15	1.4305 + 1.4571	**DDCM6**
3 ... 16	0,6	25	1.4305 + 1.4571	**DDCM16**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Vacuum switch for liquid, gas (VCM)

For monitoring vacuum of non-aggressive liquids and gaseous media.

Kind of pressure	vacuum, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-307**: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case (with the exception of VCM4156), IP65 • **-217**: two microswitches, 1 plug, switching in succession, adjustable switching interval (with the exception of VCM4156) • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i

Fixed pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential mbar	Max. pressure bar	Sensing element material	Type
-0,015 ... 0,006	–	2	1	Perbunan + 1.4301	**VCM4156**
-0,25 ... 0,1	–	25	1,5	Copper + Brass	**VCM301**
-0,25 ... 0,1	–	45	3	1.4104 + 1.4571	**VNM301**
-1 ... 0,1	–	45	3	Copper + Brass	**VCM101**
-0,9 ... 0,5	–	50	3	Copper + Brass	**VCM095**
-1 ... 0,1	–	50	6	1.4104 + 1.4571	**VNM111**

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential mbar	Max. pressure bar	Sensing element material	Type
-0,25 ... 0,1	0,03 ... 0,2	–	1,5	Copper + Brass	**VCMV301**
-0,25 ... 0,1	0,07 ... 0,5	–	3	1.4104 + 1.4571	**VNMV301**
-1 ... 0,1	0,08 ... 0,35	–	3	Copper + Brass	**VCMV101**
-0,9 ... 0,5	0,09 ... 0,4	–	3	Copper + Brass	**VCMV095**
-1 ... 0,1	0,09 ... 0,65	–	6	1.4104 + 1.4571	**VNMV111**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Vacuum switch for aggressive liquid, gas (VNS)

For monitoring and controlling pressures in devices of the chemical industry and in the process engineering as well as wherever the pressure of aggressive liquids and gases has to be monitored.

Kind of pressure	vacuum, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-301**: terminal connection housing, IP65 • **-307**: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 • **-217**: two microswitches, 1 plug, switching in succession, adjustable switching interval • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-351**: protection class IP65 and switching housing with surface protection (chemical version) • **-513**: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i
Sensing element material	1.4571

Fixed pressure hysteresis

Pressure adjustment range	Adjustable switching differential	Switching differential	Max. pressure	Type
bar	mbar	mbar	bar	
-0,25 ... 0,1	–	45	3	**VNS301-201**
-1 ... 0,1	–	50	6	**VNS111-201**

Adjustable pressure hysteresis

Pressure adjustment range	Adjustable switching differential	Switching differential	Max. pressure	Type
bar	mbar	mbar	bar	
-0,25 ... 0,1	70 ... 300	–	3	**VNS301-203**
-1 ... 0,1	90 ... 550	–	6	**VNS111-203**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure monitor for fuel gases (DGM)

For overpressure monitoring of fuel gases.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Media temp.	-25 ... 60 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-513**: Gold-plated contacts, single-pole switch-over. Switching differential permanent. IP65. Switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier, degree of protection EEx-i • **-574**: Normally closed contact with resistance combination for minimum pressure monitoring. Gold-plated contacts. Housing with surface protection (chemical version), IP65 • **-575**: Normally closed contact with reclosing lock-out resistance combination for minimum pressure monitoring. Housing with surface protection (chemical version), IP65 • **-576**: Normally closed contact with resistance combination for maximum pressure monitoring. Gold-plated contacts. Housing with surface protection (chemical version), IP65 • **-577**: Normally closed contact with reclosing lock-out and resistance combination for maximum pressure monitoring. Housing with surface protection (chemical version), IP65
Certificates	• NG-4346 AP 1011 according DIN 3398, Part 3 and DIN EN 1854 • CE-0085 AQ 1088 according EU/2009/142/EG (30.11.2009) and DIN EN 1854 (01.07.2006) • SIL2 according IEC 61508

Fixed pressure hysteresis

Pressure adjustment range bar	Switching differential mbar	Max. pressure bar	Sensing element material	Type
0,015 ... 0,06	6	0,8	Copper + Brass	**DGM306A**
0,02 ... 0,1	7	0,8	Copper + Brass	**DGM310A**
0,04 ... 0,25	10	0,8	Copper + Brass	**DGM325A**
0,1 ... 0,6	25	2	Copper + Brass	**DGM06A**
0,2 ... 1,6	40	3	Copper + Brass	**DGM1A**
0,015 ... 0,06	8	5	1.4104 + 1.4571	**DGM506**
0,04 ... 0,16	12	5	1.4104 + 1.4571	**DGM516**
0,1 ... 0,25	20	5	1.4104 + 1.4571	**DGM525**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Maximum pressure monitor of 'special construction' (DA)

Maximum pressure monitor with selfmonitoring sensor
for steam and hot water

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-20 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-20 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-513**: Gold-plated contacts, single-pole switch-over. Switching differential permanent. IP65. Switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA, suitable isolating switching amplifier, degree of protection EEx-i • **-576**: (only DWAM) Normally closed contact with resistance combination for maximum pressure monitoring. Gold-plated contacts. Housing with surface protection (chemical version), IP65 • **-577**: (only DWAM) Normally closed contact with reclosing lock-out and resistance combination for maximum pressure monitoring. Housing with surface protection (chemical version), IP65
Certificates	• TUEV-DW-04-132 for DWAM ...according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • TUEV-DW-04-133 for DWAMV ...according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • CE-0035BN0005 according Directive 97/23/EC (Module B + D) for DWAM • CE-0035BN0006 according Directive 97/23/EC (Module B + D) for DWAMV • SIL3 according IEC 61508

Fixed pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	**Type**
0,1 ... 0,6	–	0,04	5	**DWAM06**
0,2 ... 1,6	–	0,05	5	**DWAM1**
1,2 ... 6	–	0,2	10	**DWAM6**
1,2 ... 6	–	0,25	20	**DWAM625**
3 ... 16	–	0,4	20	**DWAM16**
6 ... 32	–	1,2	45	**DWAM32**

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	**Type**
0,2 ... 1,6	0,12 ... 0,6	–	5	**DWAMV1**
1,2 ... 6	0,4 ... 1,5	–	10	**DWAMV6**
3 ... 16	0,8 ... 2,5	–	20	**DWAMV16**
3 ... 32	2,5 ... 6	–	45	**DWAMV32**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure monitor for hot water, steam, gas, fuel (DWR)

For overpressure monitoring of steam, hot water, burnable gases, liquid fuels.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Mechanical lock/reset	with special function possible
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • **-213**: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • **-301**: terminal connection housing, IP65 • **-513**: Gold-plated contacts, single-pole switch-over. Switching differential permanent. IP65. Switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA, suitable isolating switching amplifier, degree of protection EEx-i • **-574**: Normally closed contact with resistance combination for minimum pressure monitoring. Gold-plated contacts. Housing with surface protection (chemical version), IP65 • **-575**: Normally closed contact with reclosing lock-out resistance combination for minimum pressure monitoring. Housing with surface protection (chemical version), IP65 • **-576**: Normally closed contact with resistance combination for maximum pressure monitoring. Gold-plated contacts. Housing with surface protection (chemical version), IP65 • **-577**: Normally closed contact with reclosing lock-out and resistance combination for maximum pressure monitoring. Housing with surface protection (chemical version), IP65
Certificates	• ID 0000007042 according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • NG-4347AQ1411 according to DIN 3398, Part 3, Issue 11.92 • 3C028/5 according to DIN 3398, Part 4, Issue 10.86 • CE0035BN004 according Directive 97/23/EC (Module B + D) • SIL2 according IEC 61508

Fixed pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	Type
0,1 ... 0,6	–	0,04	6	6	**DWR06**
0,2 ... 1,6	–	0,06	6	6	**DWR1**
0,2 ... 2,5	–	0,1	16	10	**DWR3**
0,5 ... 6	–	0,2	16	10	**DWR6**
0,5 ... 6	–	0,25	25	20	**DWR625**
3 ... 16	–	0,5	25	20	**DWR16**
4 ... 25	–	1	63	50	**DWR25**
8 ... 40	–	1,3	63	50	**DWR40**

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	Type
0,1 ... 0,6	0,08 ... 0,5	–	6	6	**DWR06-203**
0,2 ... 1,6	0,15 ... 0,6	–	6	6	**DWR1-203**
0,2 ... 2,5	0,17 ... 1,2	–	16	10	**DWR3-203**
0,5 ... 6	0,3 ... 1,4	–	16	10	**DWR6-203**
0,5 ... 6	0,4 ... 2,5	–	25	20	**DWR625-203**
3 ... 16	0,75 ... 3,15	–	25	20	**DWR16-203**
4 ... 25	1,3 ... 6	–	63	50	**DWR25-203**
8 ... 40	2,3 ... 6,6	–	63	50	**DWR40-203**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure Switches, component tested

Maximum pressure limiter for hot water, steam, fuel, gas (DWR-B)

For maximum-pressure detection of steam, hot water, burnable gases, liquid fuels.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Certificates	• ID 0000007042 according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • TUEV.SDB.02-310 according VdTUEV Memorandum Pressure 100/1, issue 4.83 • NG-4347AQ1411 according DIN 3398, part 3, issue 11.92 • 3C028/5 according to DIN 3398, Part 4, Issue 10.86 • CE0035BN0004 according Directive 97/23/EC (Module B + D) • SIL2 according IEC 61508
Pressure interlock/Reset	maximum press./button

Pressure adjustment range bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	**Type**
0,1 ... 0,6	6	6	**DWR06-205**
0,2 ... 1,6	6	6	**DWR1-205**
0,2 ... 2,5	16	10	**DWR3-205**
0,5 ... 6	16	10	**DWR6-205**
0,5 ... 6	25	20	**DWR625-205**
3 ... 16	25	20	**DWR16-205**
4 ... 25	63	50	**DWR25-205**
8 ... 40	63	50	**DWR40-205**

Syphon for high temperature, steel, U-shape, for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Minimum pressure limiter for hot water, steam, fuel, gas (DWR-B)

For minimum-pressure detection of steam, hot water, burnable gases, liquid fuels.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Certificates	• ID 0000007042 according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • ID 0000020757 according VdTUEV Memorandum Pressure 100/1, Issue 4.83 • NG-4347AQ1411 according DIN 3398, part 3, issue 11.92 • 3C028/5 according to DIN 3398, Part 4, Issue 10.86 • CE0035BN0004 according Directive 97/23EC (Module B + D) • SIL2 according IEC 61508
Pressure interlock/Reset	minimum press./button

Pressure adjustment range bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	**Type**
0,1 ... 0,6	6	6	**DWR06-206**
0,2 ... 1,6	6	6	**DWR1-206**
0,2 ... 2,5	16	10	**DWR3-206**
0,5 ... 6	16	10	**DWR6-206**
0,5 ... 6	25	20	**DWR625-206**
3 ... 16	25	20	**DWR16-206**
4 ... 25	63	50	**DWR25-206**
8 ... 40	63	50	**DWR40-206**

Syphon for high temperature, steel, U-shape, for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure Switches, component tested

Maximum pressure limiter (FD)

Maximum pressure limiter for liquid gas systems with safety function, degree of protection EEx-ia (only together with isolating switching amplifier).

Kind of pressure	overpressure, relative
Pressure connection	external thread G1/2
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Media temp.	-25 ... 60 °C
Media temp. limit	temperatures up to 60 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch with resistor combination for circuit- break and short-circuit
Certificates	• 01-12-0109 according VdTUEV Memorandum Pressure 100/1 and DIN 3398, Part 3 (for FD 16-326) • 01-12-0110 according VdTUEV Memorandum Pressure 100/1 and DIN 3398, Part 3 (for FD 16-327) • SIL3 according IEC 61508
Pressure adjustment range	3 ... 16 bar
Max. pressure	40 bar
Sensing element material	1.4104 + 1.4571
Additional description	**Products only may be used in conjunction with isolating switching amplifier.**

Switching differential bar	Pressure interlock/Reset	Type
0,5	maximum press./electrical	**FD16-326**
2,5	maximum press./button	**FD16-327**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure switch for gas (HCD)

For monitoring pressure of neutral and non-aggressive gases.

Kind of pressure	differential pressure, relative
Pressure connection	internal thread G1/4
Electrical connection	PG13,5
Protection class	IP40
Housing material	aluminium die casting
Media temp.	-15 ... 60 °C
Ambient temperature	-15 ... 60 °C
Switch function/capacity	SPDT Microswitch 240 Vac; capacity 2 A inductive, 10 A resistive
Certificates	• E 3085/2 according gas appliance directive 90/396/EEC and pr EN 1854, issue 1995
Sensing element material	Aluminium + Silicon

Pressure Switches, component tested

Pressure adjustment range mbar	Max. pressure mbar	Type
0,2 ... 3	100	**HCD6003**
1 ... 10	100	**HCD6010**
5 ... 50	200	**HCD6050**
15 ... 150	300	**HCD6150**

Maximum pressure limiter of 'special construction' (SDB)

Maximum pressure limiter with selfmonitoring sensor and internal relock
For steam and hot water.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Sensing element material	1.4104 + 1.4571
Media temp.	-20 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-20 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Certificates	• TUEV-SDB-04-134 according VdTUEV Memorandum Pressure 100/1 • CE0035BN0007 according Directive 97/23/EC (Module B + D) • SIL3 according IEC 61508
Pressure interlock/Reset	maximum press./button

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Type
0,2 ... 1,6	0,12	5	**SDBAM1**
0,4 ... 2,5	0,15	5	**SDBAM2,5**
1,2 ... 6	0,4	10	**SDBAM6**
1,2 ... 6	0,6	20	**SDBAM625**
3 ... 16	0,8	20	**SDBAM16**
6 ... 32	3	45	**SDBAM32**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Differential pressure switch for air (DPS)

Filter monitor or flow switch for air, non-combustible, non aggressive gases in air conditioning and ventilating installations.

Kind of pressure	overpressure, relative
Pressure connection	plastic connection piece for 5 mm (internal) hose
Electrical connection	AMP connector 6,3x0,8 (DIN 46244) or screw terminals
Protection class	IP54
Sensing element material	ABS + Silicon
Media temp.	-20 ... 85 °C
Ambient temperature	-20 ... 85 °C
Switch function/capacity	SPDT switch 240 Vac; 1,5 A (0.4)A
Certificates	CE0085AR0013 according DIN EN 1854
Max. pressure	50 mbar
Additional description	Accessories supplied with pressure switch: 2 m silicon hose, 2 connection pieces with mounting screws, 2 self tapping screws for mounting on housing, 3 screw terminals for electrical connection.

Pressure adjustment range Pa	Switching differential mbar	Type
20 ... 200	0,1	**DPS200**
40 ... 400	0,2	**DPS400**
50 ... 500	0,2	**DPS500**
200 ... 1000	1	**DPS1000**
500 ... 2500	1,5	**DPS2500**

Accessories

L-shaped bracket for installation turned by 90°, e.g. in the ceiling area	**DPSL**

Pressure Switches with ATEX Approval

Pressure switch (Ex) for liquid, gas (Ex-DCM)

Pressure switch for Ex-applications. Degree of Ex-protection: Ex II 2 G/D EEx de IIC T6 IP65 T80 °C
For overpressure monitoring of non-aggressive liquids and gaseous media.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 80 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch; capacity 2 A inductive, 3 A resistive
Certificates	• ATEX-approval No. PTB 02 ATEX 1121

Fixed pressure hysteresis

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,001 ... 0,016	0,002	1	Perbunan + 1.4301	**EX-DCM4016**
0,004 ... 0,025	0,002	1	Perbunan + 1.4301	**EX-DCM4025**
1 ... 10	0,3	16	1.4104 + 1.4571	**EX-DNM10**
16 ... 63	1	130	1.4104 + 1.4571	**EX-DNM63**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure switch (Ex) for aggressive liquid, gas (Ex-DNS)

For monitoring and controlling pressures in Ex-applications in devices of the chemical industry and in the process engineering as well as wherever the pressure of aggressive liquids and gases has to be monitored. Degree of Ex-protection: Ex II 2 G D EEx de IIC T6 IP65 T80 °C.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 80 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 2 A inductive, 3 A resistive
Certificates	ATEX-approval No. PTB 02 ATEX 1121
Sensing element material	1.4571

Fixed pressure hysteresis

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Type
0,04 ... 0,25	0,03	6	**EX-DNS025**
0,1 ... 0,6	0,04	6	**EX-DNS06**
0,2 ... 1,6	0,06	6	**EX-DNS1**
0,2 ... 2,5	0,1	16	**EX-DNS3**
0,5 ... 6	0,15	16	**EX-DNS6**
1 ... 10	0,3	16	**EX-DNS10**
3 ... 16	0,5	25	**EX-DNS16**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Differential pressure switch (Ex) for liquid, gas (Ex-DDCM)

Differential pressure switch for Ex-applications. Degree of Ex-protection: Ex II 2 G D EEx de IIC T6 IP65 T80 °C.
For flow monitoring and differential pressure control of steam, gas, hot/cold water and automatic checking of filter plant.

Kind of pressure	differential pressure, relative
Pressure connection	internal thread G1/4
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 80 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)

Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch; capacity 2 A inductive, 3 A resistive
Certificates	• ATEX-approval No. PTB 02 ATEX 1121

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,004 ... 0,025	0,002	0,5	Perbunan + Aluminium	**EX-DDCM252**
0,01 ... 0,06	0,015	1,5	Perbunan + Aluminium	**EX-DDCM662**
0,02 ... 0,16	0,02	3	Perbunan + Aluminium	**EX-DDCM1602**
0,1 ... 0,6	0,035	3	Perbunan + Aluminium	**EX-DDCM6002**
-0,1 ... 0,4	0,15	15	1.4305 + 1.4571	**EX-DDCM014**
0,2 ... 1,6	0,13	15	1.4305 + 1.4571	**EX-DDCM1**
1 ... 4	0,2	25	1.4305 + 1.4571	**EX-DDCM4**
0,5 ... 6	0,2	15	1.4305 + 1.4571	**EX-DDCM6**
3 ... 16	0,6	25	1.4305 + 1.4571	**EX-DDCM16**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Vacuum switches (Ex) liquid, gas (Ex-VCM)

Vacuum switches for Ex-applications. Degree of Ex-protection: Ex II 2 G D EEx de IIC T6 IP65 T80 °C. For monitoring vacuum of non-aggressive liquids and gaseous media.

Kind of pressure	vacuum, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 80 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 2 A inductive, 3 A resistive
Certificates	ATEX-approval No. PTB 02 ATEX 1121

Pressure adjustment range mbar	Switching differential mbar	Max. pressure bar	Sensing element material	Type
-15 ... 6	2	1	Perbunan + 1.4301	**EX-VCM4156**
-250 ... 100	25	1,5	Copper + Brass	**EX-VCM301**
-250 ... 100	45	3	1.4104 + 1.4571	**EX-VNM301**
-1000 ... 100	45	3	Copper + Brass	**EX-VCM101**
-900 ... 500	50	3	Copper + Brass	**EX-VCM095**
-1000 ... 100	50	6	1.4104 + 1.4571	**EX-VNM111**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Vacuum switch (Ex) for aggressive liquid, gas (Ex-VNS)

For monitoring and controlling pressures in Ex-applications in devices of the chemical industry and in the process engineering as well as wherever the pressure of aggressive liquids and gases has to be monitored. Degree of Ex-protection: Ex II 2 G D EEx de IIC T6 IP65 T80 °C.

Kind of pressure	vacuum, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 80 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 2 A inductive, 3 A resistive
Certificates	ATEX-approval No. PTB 02 ATEX 1121
Sensing element material	1.4571

Fixed pressure hysteresis

Pressure adjustment range mbar	Switching differential mbar	Max. pressure bar	Type
-250 ... 100	45	3	**EX-VNS301**
-1000 ... 100	50	6	**EX-VNS111**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure monitor (Ex) for burnable gas (Ex-DGM)

For overpressure monitoring in Ex-applications of fuel gases. Degree of Ex-protection: Ex II 2 G D EEx de IIC T6 IP65 T80 °C.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 80 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 2 A inductive, 3 A resistive
Certificates	• NG-4346 AP 1011 according DIN 3398, Part 3 and DIN EN 1854 • CE-0085 AQ 1088 according EU/2009/142/EG (30.11.2009) and DIN EN 1854 (01.07.2006) • PTB 02 ATEX 1121 according Directive 94/9 EC • SIL2 according IEC 61508
Max. pressure	5 bar

Pressure adjustment range mbar	Switching differential mbar	Type
15 ... 60	10	**EX-DGM506**
40 ... 160	12	**EX-DGM516**
100 ... 250	20	**EX-DGM525**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure Switches, component-tested with ATEX Approval

Pressure monitor (Ex) for hot water, steam, gas, fuel (Ex-DWR)

For overpressure monitoring in ex-applications of steam, hot water, burnable gases, liquid fuels. Degree of Ex-protection: Ex II 2 G D EEx de IIC T6 IP65 T80 °C

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection M16x1,5
Protection class	IP65
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-15 ... 60 °C
Media temp. limit	temperatures up to 80 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-15 ... 60 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 2 A inductive, 3 A resistive
Certificates	• ID 0000007042 according VdTUEV MemorandumPressure 100/1, Issue 4.83 • NG-4347AQ1411 according to DIN 3398, Part 3, Issue 11.92 • 3C028/5 according to DIN 3398, Part 4, Issue 10.86 • ATEX-approval No. PTB 02 ATEX 1121 • CE0035BN0004 according Directive 97/23/EC (Module B + D) • SIL2 according IEC 61508

Fixed pressure hysteresis

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Allowable max. gas-pressure (DIN3398P3) bar	**Type**
0,1 ... 0,6	0,04	6	6	**EX-DWR06**
0,2 ... 1,6	0,06	6	6	**EX-DWR1**
0,2 ... 2,5	0,1	16	10	**EX-DWR3**
0,5 ... 6	0,2	16	10	**EX-DWR6**
0,5 ... 6	0,25	25	20	**EX-DWR625**
3 ... 16	0,5	25	20	**EX-DWR16**
4 ... 25	1	63	50	**EX-DWR25**
8 ... 40	1,3	63	50	**EX-DWR40**

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)	**U430B**

Accessories for Pressure Switches / Transmitters

Digital Display

DN size mm	Lowest pressure point bar	Media temp. °C	Type
–	–	–	**AZ331**

Flanged Pressure Mediators

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-40 ... 120	**ZFV184-50**
80	0,15	-40 ... 120	**ZFV184-80**

Flanged Pressure Mediators, teflon surfaced

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-40 ... 120	**ZFV184-50PTFE**
80	0,15	-40 ... 120	**ZFV184-80PTFE**

Flanged Pressure Mediators with 1 m pipeline

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-30 ... 300	**ZFV185-50**
80	0,15	-30 ... 300	**ZFV185-80**

Flanged Pressure Mediators with 1 m pipeline, teflon surfaced

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-30 ... 300	**ZFV185-50PTFE**
80	0,15	-30 ... 300	**ZFV185-80PTFE**

Pressure Mediator

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,4	-30 ... 120	**ZFV162-50**

Pressure Mediator, teflon surfaced

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,4	-30 ... 120	**ZFV162-50PTFE**

Screw-in Pressure Mediator

DN size mm	Lowest pressure point bar	Media temp. °C	Type
G1	0,5	-30 ... 120	**ZFV749**
G1	0,5	-30 ... 120	**ZFV749 - V191**

Syphons

Syphon for high temperature, steel, U-shape	**U430B**
Syphon for high temperature, steinless steel, U-shape	**U480B**
Syphon for high temperature, steel, circular	**K430D**
Syphon for high temperature, stainless steel, circular	**K480D**

Accessories

Adapter	**NPT1**
Pressure surge reducer	**DMW**
Sealing	**P2**

Accessories for Differential Switches / Transmitters

Shut-off valve combination, 3-venting valve	**VKD3**
Shut-off valve combination, 5-venting valve	**VKD5**
Male adapter union, O-ring NBR	**MAU8/MS**
Male adapter union, O-ring FPM	**MAU8/NST**

Pressure transmitters — Page

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Honeywell

Electronic Pressure transmitter for gas and liquid (Smart SN)

Electronic Pressure Transmitters are microprocessor-controlled pressure measurement devices for relative pressures of -1 to +1 bar and 0 to 40 bar. They are suitable for an extremely wide range of applications, including the precision recordin and monitoring of system pressure.
Features:

- Configurable as 0/2...10V or 0/4...20 mA (3-wire)
- Adjustable attenuation filter
- LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software

Media temp.	-20 ... 80 °C
Sensing element material	1.4571
Certificates	All 2-wire versions are SIL2 approved according IEC 61508

Pressure Transmitter without HMI (2-wire, 4-20 mA)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
-1 ... 1	6	IP67	-20 ... 80	**PTSRV1011A2**
0 ... 1	3	IP67	-20 ... 80	**PTSRB0011A2**
0 ... 4	12	IP67	-20 ... 80	**PTSRB0041A2**
0 ... 10	30	IP67	-20 ... 80	**PTSRB0101A2**
0 ... 16	48	IP67	-20 ... 80	**PTSRB0161A2**
0 ... 25	50	IP67	-20 ... 80	**PTSRB0251A2**
0 ... 40	80	IP67	-20 ... 80	**PTSRB0401A2**

Pressure Transmitter without HMI (3-wire, 0-10V)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
-1 ... 1	6	IP67	-20 ... 80	**PTSRV1011V3**
0 ... 1	3	IP67	-20 ... 80	**PTSRB0011V3**
0 ... 4	12	IP67	-20 ... 80	**PTSRB0041V3**
0 ... 10	30	IP67	-20 ... 80	**PTSRB0101V3**
0 ... 16	48	IP67	-20 ... 80	**PTSRB0161V3**
0 ... 25	50	IP67	-20 ... 80	**PTSRB0251V3**
0 ... 40	80	IP67	-20 ... 80	**PTSRB0401V3**

Pressure Transmitter without HMI (3-wire, 4...20mA)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
-1 ... 1	6	IP67	-20 ... 80	**PTSRV1011A3**
0 ... 1	3	IP67	-20 ... 80	**PTSRB0011A3**
0 ... 4	12	IP67	-20 ... 80	**PTSRB0041A3**
0 ... 10	30	IP67	-20 ... 80	**PTSRB0101A3**
0 ... 16	48	IP67	-20 ... 80	**PTSRB0161A3**
0 ... 25	50	IP67	-20 ... 80	**PTSRB0251A3**
0 ... 40	80	IP67	-20 ... 80	**PTSRB0401A3**

Pressure Transmitter with HMI (2-wire, 4-20 mA)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
-1 ... 1	6	IP65	-20 ... 70	**PTHRV1011A2**
0 ... 1	3	IP65	-20 ... 70	**PTHRB0011A2**
0 ... 4	12	IP65	-20 ... 70	**PTHRB0041A2**
0 ... 10	30	IP65	-20 ... 70	**PTHRB0101A2**
0 ... 16	48	IP65	-20 ... 70	**PTHRB0161A2**
0 ... 25	50	IP65	-20 ... 70	**PTHRB0251A2**
0 ... 40	80	IP65	-20 ... 70	**PTHRB0401A2**

Pressure Transmitter with HMI (3-wire, 0-10 V)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
-1 ... 1	6	IP65	-20 ... 70	**PTHRV1011V3**
0 ... 1	3	IP65	-20 ... 70	**PTHRB0011V3**
0 ... 4	12	IP65	-20 ... 70	**PTHRB0041V3**
0 ... 10	30	IP65	-20 ... 70	**PTHRB0101V3**
0 ... 16	48	IP65	-20 ... 70	**PTHRB0161V3**
0 ... 25	50	IP65	-20 ... 70	**PTHRB0251V3**
0 ... 40	80	IP65	-20 ... 70	**PTHRB0401V3**

Accessory

Field configuration tool	**CFT1**

Electronic Differential Pressure transmitter for gas and liquid (Smart SN DIFF)

Electronic Differential Pressure Transmitters are microprocessor-controlled pressure measurement devices for a differential pressure range of 0 ... 20 bar. They are suitable for an extremely wide range of applications, including the precision recording and monitoring of system pressure. They come complete with an angled M12X1 plug and are mounted directly to the pipe via two G1/4" internal thread connections.
Features:

- Configurable as 0/2...10V or 0/4...20 mA (3-wire)
- Adjustable attenuation filter
- LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software for better readability; HMI can be freely swiveled 310°
- Self-monitoring electronics
- Power supply 24 VAC/DC (3-wire models)
- Power supply 18-35 V DC (2-wire models)

Media temp. -20 ... 80 °C

Pressure Transmitter with HMI (2-wire)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
0 ... 0,1	0,9	IP65	-20 ... 70	**PTHDM1002A2**
0 ... 0,3	0,9	IP65	-20 ... 70	**PTHDM3002A2**
0 ... 1	3	IP65	-20 ... 70	**PTHDB0012A2**
0 ... 3	9	IP65	-20 ... 70	**PTHDB0032A2**
0 ... 6	21	IP65	-20 ... 70	**PTHDB0062A2**
0 ... 20	60	IP65	-20 ... 70	**PTHDB0202A2**

Pressure Transmitter without HMI (3-wire)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
0 ... 0,1	0,9	IP67	-20 ... 80	**PTSDM1002V3**
0 ... 0,3	0,9	IP67	-20 ... 80	**PTSDM3002V3**
0 ... 1	3	IP67	-20 ... 80	**PTSDB0012V3**
0 ... 3	9	IP67	-20 ... 80	**PTSDB0032V3**
0 ... 6	21	IP67	-20 ... 80	**PTSDB0062V3**
0 ... 20	60	IP67	-20 ... 80	**PTSDB0202V3**

Pressure Transmitter with HMI (3-wire)

Pressure range (bar)	Max. pressure (bar)	Protection class	Ambient temperature (°C)	Type
0 ... 0,1	0,9	IP65	-20 ... 70	**PTHDM1002V3**
0 ... 0,3	0,9	IP65	-20 ... 70	**PTHDM3002V3**
0 ... 1	3	IP65	-20 ... 70	**PTHDB0012V3**
0 ... 3	9	IP65	-20 ... 70	**PTHDB0032V3**
0 ... 6	21	IP65	-20 ... 70	**PTHDB0062V3**
0 ... 20	60	IP65	-20 ... 70	**PTHDB0202V3**

Pressure transmitter with terminal connection for liquid, gas (FNED1)

Pressure transmitter, 3-wire system.
For pressure control of liquids or gaseous media, e.g. for district heating or cooling.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection 2 x M16x1,5
Protection class	IP65
Sensing method	mechanical-inductive
Sensing element material	1.4104 + 1.4571
Media temp.	0 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Medium	liquid/gaseous
Ambient temperature	0 ... 45 °C
Power supply	19..29Vac, 24..36Vdc
Output signal	0/2..10Vdc + 0/4..20mA
Additional description	Accuracy class: 1,0

Pressure range bar	Max. pressure bar	Type
0 ... 0,05	2,5	**FN505+ED1**
0 ... 0,1	5	**FN510+ED1**
0 ... 0,25	6	**FN025+ED1**
0 ... 0,5	6	**FN05+ED1**
0 ... 1	6	**FN1+ED1**
0 ... 2,5	16	**FN3+ED1**

Syphons for high temperature, steel, u-shape (for more accessories see Accessories for Pressure Switches / Transmitters)	**U430B**

Pressure transmitter with plug connection for liquid, gas (FNED3)

Pressure transmitter, 3-wire system.
For pressure control of liquids or gaseous media, e.g. for district heating or cooling.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP65
Sensing method	mechanical-inductive
Sensing element material	1.4104 + 1.4571
Media temp.	0 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Medium	liquid/gaseous
Ambient temperature	0 ... 45 °C
Power supply	19..29Vac, 24..36Vdc
Output signal	0..10Vdc + 0..20mA
Additional description	Accuracy class: 1,0

Pressure range bar	Max. pressure bar	Type
0 ... 0,05	2,5	**FN505+ED3**
0 ... 0,1	5	**FN510+ED3**
0 ... 0,25	6	**FN025+ED3**
0 ... 0,5	6	**FN05+ED3**
0 ... 1	6	**FN1+ED3**
0 ... 2,5	16	**FN3+ED3**

Syphons for high temperature, steel, u-shape (for more accessories see Accessories for Pressure Switches / Transmitters)	**U430B**

Differential pressure transmitter with terminal connection for liquid, gas (F+ED1)

Differential pressure transmitter, 3-wire system.
For differential pressure control of liquids or gaseous media, e.g. for district heating or cooling.

Kind of pressure	differential pressure, relative
Pressure connection	internal thread G1/4
Electrical connection	terminal connection 2 x M16x1,5
Protection class	IP65
Sensing method	mechanical-inductive
Sensing element material	1.4305 + 1.4571
Media temp.	0 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Medium	liquid/gaseous
Ambient temperature	0 ... 45 °C
Power supply	19..29Vac, 24..36Vdc
Output signal	0/2..10Vdc + 0/4..20mA
Additional description	Accuracy class: 1,0.

Pressure range bar	Max. pressure bar	Type
0 ... 0,5	10	**FHBN05+ED1**
0 ... 1	15	**FHBN1+ED1**
0 ... 2,5	15	**FHBN3+ED1**
0 ... 5	15	**FHBN5+ED1**
0 ... 10	25	**FHBN10+ED1**

Differential pressure transmitter with plug connection for liquid, gas (F+ED3)

Differential pressure transmitter, 3-wire system.
For differential pressure control of liquids or gaseous media, e.g. for district heating or cooling.

Kind of pressure	differential pressure, relative
Pressure connection	internal thread G1/4
Electrical connection	Plug DIN 43650
Protection class	IP65
Sensing method	mechanical-inductive
Sensing element material	1.4305 + 1.4571
Media temp.	0 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Medium	liquid/gaseous
Ambient temperature	0 ... 45 °C
Power supply	19..29Vac, 24..36Vdc
Output signal	0..10Vdc + 0..20mA
Additional description	Accuracy class: 1,0.

Pressure range bar	Max. pressure bar	Type
0 ... 0,5	10	**FHBN05+ED3**
0 ... 1	15	**FHBN1+ED3**
0 ... 2,5	15	**FHBN3+ED3**
0 ... 5	15	**FHBN5+ED3**
0 ... 10	25	**FHBN10+ED3**

Vacuum transmitter with terminal connection for liquid, gas (FVNED1)

Vacuum transmitter, 3-wire system.
For vacuum control of liquids or gaseous media, e.g. for district heating or cooling.

Kind of pressure	vacuum, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	terminal connection 2 x M16x1,5
Protection class	IP65
Sensing method	mechanical-inductive
Sensing element material	1.4104 + 1.4571
Media temp.	0 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Medium	liquid/gaseous
Ambient temperature	0 ... 45 °C
Power supply	19..29Vac, 24..36Vdc
Output signal	0/2..10Vdc + 0/4..20mA
Additional description	Accuracy class: 1,0

Pressure range bar	Max. pressure bar	Type
-1 ... 0	6	**FVN111+ED1**
-1 ... 1	6	**FVN112+ED1**
-1 ... 5	25	**FVN105+ED1**
-0,25 ... 0,25	3	**FVN125+ED1**

Syphons for high temperature, steel, u-shape (for more accessories see Accessories for Pressure Switches / Transmitters)	**U430B**

Vacuum transmitter with plug connection for liquid, gas (FVNED3)

Vacuum transmitter, 3-wire system.
For vacuum control of liquids or gaseous media, e.g. for district heating or cooling.

Kind of pressure	vacuum, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN 43650
Protection class	IP65
Sensing method	mechanical-inductive
Sensing element material	1.4104 + 1.4571
Media temp.	0 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Medium	liquid/gaseous
Ambient temperature	0 ... 45 °C
Power supply	19..29Vac, 24..36Vdc
Output signal	0..10Vdc + 0..20mA
Additional description	Accuracy class: 1,0

Pressure range bar	Max. pressure bar	Type
-1 ... 0	6	**FVN111+ED3**
-1 ... 1	6	**FVN112+ED3**
-1 ... 5	25	**FVN105+ED3**
-0,25 ... 0,25	3	**FVN125+ED3**

Syphons for high temperature, steel, u-shape (for more accessories see Accessories for Pressure Switches / Transmitters)	**U430B**

Differential pressure transmitter for air (DPTM)

Double range differential pressure transmitter for air-conditioning/ventilation.
For filter-, fluid-, level monitoring, fan-, blower-, valve-, flap-, air flow control, and environmental protection.

Kind of pressure	differential pressure, relative
Pressure connection	6mm hose pipe
Electrical connection	M20x1,5
Protection class	IP54
Housing material	ABS and POM
Sensing method	piezoresistive
Sensing element material	ABS + POM
Media temp.	0 ... 50 °C
Medium	gaseous
Ambient temperature	0 ... 50 °C
Additional description	Duct Kit DPSK included in delivery of single package. • Adjustable by jumper to the next higher pressure range. • Factory settings: see column "pressure range". Full scale pressure range see data sheet

3-wire models, selectable 0 - 10 V/4 - 20 mA, analog output, supply voltage 18...30 Vac/dc, 50/60 Hz

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	**DPTM50**
-100 ... 100	20	**DPTM110**
-500 ... 500	20	**DPTM550**
-1000 ... 1000	20	**DPTM1100**
0 ... 100/250	20	**DPTM100**
0 ... 250/500	20	**DPTM250**
0 ... 500/1000	20	**DPTM500**
0 ... 1000/2500	40	**DPTM1000**
0 ... 5000/10000	60	**DPTM5000**

3-wire models, selectable 0 - 10 V / 4 - 20 mA analog output, supply voltage 18...30 Vac/dc, 50/60 Hz; WITH LED

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	**DPTM50D**
-100 ... 100	20	**DPTM110D**
-500 ... 500	20	**DPTM550D**
-1000 ... 1000	20	**DPTM1100D**
0 ... 100/250	20	**DPTM100D**
0 ... 250/500	20	**DPTM250D**
0 ... 500/1000	20	**DPTM500D**
0 ... 1000/2500	40	**DPTM1000D**
0 ... 5000/10000	60	**DPTM5000D**

2-wire models, analog output 4 - 20 mA, supply voltage 16 ... 32 Vdc

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	**DPTM52**
-100 ... 100	20	**DPTM112**
-500 ... 500	20	**DPTM552**
-1000 ... 1000	20	**DPTM1102**
0 ... 100/250	20	**DPTM102**
0 ... 250/500	20	**DPTM252**
0 ... 500/1000	20	**DPTM502**
0 ... 1000/2500	40	**DPTM1002**
0 ... 5000/10000	60	**DPTM5002**

Accessories

Duct Kit, including 2m silicone-hose and 2 joining pipes DPSJ with screws	**DPSK**
Mounting brackets L-shaped	**DPSL**

Accessories for Pressure Switches / Transmitters

Digital Display

DN size mm	Lowest pressure point bar	Media temp. °C	Type
–	–	–	**AZ331**

Flanged Pressure Mediators

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-40 ... 120	**ZFV184-50**
80	0,15	-40 ... 120	**ZFV184-80**

Flanged Pressure Mediators, teflon surfaced

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-40 ... 120	**ZFV184-50PTFE**
80	0,15	-40 ... 120	**ZFV184-80PTFE**

Flanged Pressure Mediators with 1 m pipeline

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-30 ... 300	**ZFV185-50**
80	0,15	-30 ... 300	**ZFV185-80**

Flanged Pressure Mediators with 1 m pipeline, teflon surfaced

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,3	-30 ... 300	**ZFV185-50PTFE**
80	0,15	-30 ... 300	**ZFV185-80PTFE**

Pressure Mediator

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,4	-30 ... 120	**ZFV162-50**

Pressure Mediator, teflon surfaced

DN size mm	Lowest pressure point bar	Media temp. °C	Type
50	0,4	-30 ... 120	**ZFV162-50PTFE**

Screw-in Pressure Mediator

DN size mm	Lowest pressure point bar	Media temp. °C	Type
G1	0,5	-30 ... 120	**ZFV749**
G1	0,5	-30 ... 120	**ZFV749 - V191**

Syphons

Syphon for high temperature, steel, U-shape	**U430B**
Syphon for high temperature, steinless steel, U-shape	**U480B**
Syphon for high temperature, steel, circular	**K430D**
Syphon for high temperature, stainless steel, circular	**K480D**

Accessories

Adapter	**NPT1**
Pressure surge reducer	**DMW**
Sealing	**P2**

Accessories for Differential Switches / Transmitters

Shut-off valve combination, 3-venting valve	**VKD3**
Shut-off valve combination, 5-venting valve	**VKD5**
Male adapter union, O-ring NBR	**MAU8/MS**
Male adapter union, O-ring FPM	**MAU8/NST**

Solenoid Valves Page

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Solenoid valves, up to 90 degree (TG)

The 2/2-way valves of the TG-series can be used over a wide range of pressures. The balanced mode of operation does not require a minimum differential pressure.

Valve application	gaseous/liquid
Materials	**Casing**: Bronze Rg 5 to DIN1705 **Internal parts**: Brass (CuZn) and corrosion-resistant steel **Piston seal**: Buna rubber (NBR) **Nozzle seal**: Buna rubber (NBR) **Static seal**: Buna rubber (NBR)
Media temp.	-15 ... 90 °C
Ambient temperature	-15 ... 60 °C
Operating mode	normally closed
Power supply	230V 50Hz
Additional description	Can also be supplied with operation mode "normally open", e.g. T15G31M**U**. The valves must be actuated approx. 5 - 10 times per month to prevent possible sticking of the piston. Other supply voltage versions on request.

Socket connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Type
15	4	PN40	0 ... 40	G1/2	**T15G31M**
20	4,8	PN40	0 ... 40	G3/4	**T20G31M**
25	10	PN40	0 ... 30	G1	**T25G31M**
32	13	PN40	0 ... 30	G1 1/4	**T32G31M**

Flange connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Type
15	4	PN40	0 ... 40	flange	**T15G31F**
20	4,8	PN40	0 ... 40	flange	**T20G31F**
25	10	PN40	0 ... 30	flange	**T25G31F**
32	13	PN40	0 ... 30	flange	**T32G31F**
40	34	PN25	0 ... 20	flange	**T40G31F**
50	40	PN25	0 ... 20	flange	**T50G31F**

Accessories

Rectifier / Plug	**GS**

Solenoid valves for liquid medium (AB)

The 2/2-way valves of the AB-series are suitable for general applications and is not dependent operationally on a specific minimum differential pressure, and right through to maximum pressure. They are ideal choice for installation in situations where differential pressure fluctuate greatly and are not possible to determine precisely in advance. They are suitable for neutral liquids, such as water, hydraulic oil, oils and fats without additives.

Valve application	liquid
Materials	**Casing**: brass **Internal parts**: stainless steel **Membrane**: Perbunan
Media temp.	-10 ... 90 °C
Ambient temperature	-10 ... 55 °C
Operating mode	normally closed
Power supply	230V 50Hz
Working range	0 ... 10 bar

DN size mm	Kvs value	Connections	Type
10	1,8	G3/8	**AB10**
13	3,5	G1/2	**AB13**
20	8,6	G3/4	**AB20**
25	11	G1	**AB25**
25	11	G1 1/4	**AB32**
40	30	G1 1/2	**AB40**
40	30	G2	**AB50**

Plug

Device plug with LED-display for voltage 200V - 240 VAC/DC	**ST221**

Solenoid valves for gaseous and liquid medium (GB)

The 2/2-way valves of the GB-series are suitable for general applications and is not dependent operationally on a specific minimum differential pressure. They are ideal choice for installation in situations where differential pressure fluctuate greatly and are not possible to determine precisely in advance. They are also suitable for use in heating and cooling circuits.

Valve application	gaseous/liquid
Materials	**Casing**: (see below), either brass or stainless steel (1.4410) **Internal parts**: stainless steel
Media temp.	-10 ... 90 °C
Ambient temperature	-10 ... 55 °C
Operating mode	normally closed
Power supply	230V 45..60Hz
Working range	0 ... 16 bar

Brass valve body, Sealings: Perbunan

DN size mm	Kvs value	Connections	Type
12	2,8	G1/2	**GB12**
20	5	G3/4	**GB20**
25	10	G1	**GB25**

Stainless steel 1.4410 valve body, Sealings: Viton(R)

DN size mm	Kvs value	Connections	Type
12	2,8	G1/2	**GB12VA**
20	5	G3/4	**GB20VA**
25	10	G1	**GB25VA**

Plug

Device plug with LED-display for voltage 200V - 240 VAC/DC	**ST221**

Solenoid valves for media up to 180 degree (GK)

The GK series piston-type solenoid valves are ideal for use as shutoff valves in heating and process engineering systems, e. g. hot water and steam. The valves require no minimum differential pressure.

Valve application	gaseous/liquid
Materials	**Casing**: (see below), either brass or cast iron GG25, **Membrane**: viton and graphit
Media temp.	0 ... 180 °C
Ambient temperature	0 ... 55 °C
Operating mode	normally closed
Power supply	230V 50Hz
Working range	0 ... 10 bar

Screwed version, material: brass

DN size mm	Kvs value	Connections	Type
13	3,7	G1/2	**GK13**
20	5	G3/4	**GK20**
25	10	G1	**GK25**
32	16	G1 1/4	**GK32**
40	16	G1 1/2	**GK40**
50	36	G2	**GK50**

Flanged version, material: cast iron GG25

DN size mm	Kvs value	Connections	Type
25	10	flange	**GK25F**
32	16	flange	**GK32F**
40	16	flange	**GK40F**
50	36	flange	**GK50F**

Plug

Device plug with LED-display for voltage 200V - 240 VAC/DC	**ST221**

Solenoid Valves, component tested

Solenoid valves for potable water (AT)

The 2/2-way valves of the AT-series are suitable for potable water and is not dependent operationally on a specific minimum differential pressure, and right through to maximum pressure.

Valve application	liquid
Materials	**Casing**: brass **Internal parts**: stainless steel **Membrane**: EPDM
Media temp.	0 ... 120 °C
Ambient temperature	-10 ... 55 °C
Operating mode	normally closed
Power supply	230V 50Hz
Certificates	VDE-approval according EN 60730 up to 50 degree
Working range	0 ... 10 bar

DN size mm	Kvs value	Connections	Type
10	1,8	G3/8	**AT10**
13	3,5	G1/2	**AT13**
20	8,6	G3/4	**AT20**
25	11	G1	**AT25**
25	11	G1 1/4	**AT32**
40	30	G1 1/2	**AT40**
40	30	G2	**AT50**

Plug

Device plug with LED-display for voltage 200V - 240 VAC/DC	**ST221**

Solenoid valves for neutral liquid medium (AV)

The 2/2-way valves of the AV-series are designed for safety function in liquid fuel supply systems. The valves prevent unintended draining of the system and storage tanks in case of malfunction of burner or filter.

Valve application	fuel oil
Materials	**Casing**: brass **Internal parts**: stainless steel **Membrane**: Viton
Media temp.	0 ... 90 °C
Ambient temperature	-10 ... 55 °C
Operating mode	normally closed
Power supply	230V 50Hz
Certificates	5S235/05 according to DIN EN 264

DN size mm	Kvs value	Working range bar	Connections	Type
10	1,8	-0,9 ... 4	G3/8	**AV102MS2**
13	3,5	-0,9 ... 4	G1/2	**AV131MS2**
20	8,6	-0,9 ... 10	G3/4	**AV201MS2**
25	11	-0,9 ... 10	G1	**AV251MS2**
25	11	-0,9 ... 10	G1 1/4	**AV252MS2**
40	30	-0,9 ... 10	G1 1/2	**AV401MS2**
40	30	-0,9 ... 10	G2	**AV402MS2**

Plug

Device plug with LED-display for voltage 200V - 240 VAC/DC	**ST221**

Solenoid valves for gas, liquid gas/fuel (K)

The 2/2-way valves of the K-series can be used for all gases according to DVGW-data sheet G 260, for liquid gas in liquid phase (up to DN25) and for fuel oil. No minimum differential pressure is necessary.

Valve application	liquid gas
Materials	**Casing**: Bronze Rg 5 to DIN1705 **Internal parts**: Brass (CuZn40Pb) and corrosion-resistant steel **Piston seal**: Buna rubber (NBR) **Nozzle seal**: Buna rubber (NBR) **Static seal**: Buna rubber (NBR)
Media temp.	-15 ... 60 °C
Ambient temperature	-15 ... 60 °C
Operating mode	normally closed
Power supply	230V 50Hz
Certificates	• CE-0085AN0072 according to DIN EN 161, DIN 3394, P.1 • CE-0085AN0074 according to DIN EN 161 • 5S038/02 according to DIN EN 264 • 5S039/02 according to DIN EN 264 • 5SO40/02 according to DIN EN 264 • CE-0035BN0022 according to PED • CE-0035BN0023 according to PED • CE-0035BN0024 according to PED
Additional description	The valves must be actuated approx. 5 - 10 times per month to prevent possible sticking of the piston. Other supply voltage on request.

Socket connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Class	Type
15	4	PN40	0 ... 4	G1/2	B	**K15G31M**
20	4,8	PN40	0 ... 4	G3/4	B	**K20G31M**

Flange connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Class	Type
15	4	PN40	0 ... 25	flange	B	**K15G31F**
20	4,8	PN40	0 ... 25	flange	B	**K20G31F**
25	10	PN40	0 ... 25	flange	B	**K25G31F**
32	13	PN40	0 ... 25	flange	B	**K32G31F**
40	34	PN25	0 ... 20	flange	C	**K40G31F**
50	40	PN25	0 ... 20	flange	C	**K50G31F**

Accessories

Rectifier / Plug	**GS**

Solenoid valves (Ex) for universal application (Ex-TG)

The 2/2-way valves of the TG-series can be used over a wide range of pressures in Ex-applications. Degree of Ex-protection: EEx de IIC T4 for Zone 1 (21) Gas and Dust. The balanced mode of operation does not require a minimum differential pressure.

Valve application	gaseous/liquid
Materials	**Casing**: Bronze Rg 5 to DIN1705 **Internal parts**: Brass (CuZn) and corrosion-resistant steel **Piston seal**: Buna rubber (NBR) **Nozzle seal**: Buna rubber (NBR) **Static seal**: Buna rubber (NBR)
Media temp.	-15 ... 60 °C
Ambient temperature	-15 ... 60 °C
Operating mode	normally closed
Power supply	230V 50Hz
Certificates	ATEX-approval No. PTB 04 ATEX 1026
Additional description	Can also be supplied with operation mode "normally open", e.g. T15G35M-EX**U**. The valves must be actuated approx. 5 - 10 times per month to prevent possible sticking of the piston. Other suppy voltage versions on request.

Socket connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Type
15	4	PN40	0 ... 40	G1/2	**T15G35M-EX**
20	4,8	PN40	0 ... 40	G3/4	**T20G35M-EX**
25	10	PN30	0 ... 30	G1	**T25G35M-EX**
32	13	PN30	0 ... 30	G1 1/4	**T32G35M-EX**

Flange connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Type
15	4	PN40	0 ... 40	flange	**T15G35F-EX**
20	4,8	PN40	0 ... 40	flange	**T20G35F-EX**
25	10	PN30	0 ... 30	flange	**T25G35F-EX**
32	13	PN30	0 ... 30	flange	**T32G35F-EX**
40	34	PN20	0 ... 20	flange	**T40G35F-EX**
50	40	PN20	0 ... 20	flange	**T50G35F-EX**

Accessories

Rectifier / Plug	**GS**

Solenoid Valves, component tested with ATEX approval

Solenoid valves (Ex) for gas, liquid gas/fuel (Ex-K)

The 2/2-way valves of the K-series in Ex-version can be used for all gases according to DVGW-data sheet G 260, for liquid gas in liquid phase (up to DN25) and for fuel oil. No minimum differential pressure is necessary. Degree of Ex-protection: EEx de IIC T4 for Zone 1 (21) Gas and Dust.

Valve application	liquid gas
Materials	**Casing**: Bronze Rg 5 to DIN1705 **Internal parts**: Brass (CuZn40Pb) and corrosion-resistant steel **Piston seal**: Buna rubber (NBR) **Nozzle seal**: Buna rubber (NBR) **Static seal**: Buna rubber (NBR)
Media temp.	-15 ... 60 °C
Ambient temperature	-15 ... 60 °C
Operating mode	normally closed
Power supply	230V 50Hz
Certificates	• CE-0085AN0073 according to DIN EN 161, DIN 3394, P.1 • CE-0085AN0075 according to DIN EN 161 • 5S038/02 according to DIN EN 264 • 5S039/02 according to DIN EN 264 • 5SO40/02 according to DIN EN 264 • ATEX-approval No. PTB 04 ATEX 1026 • CE-0035BN0022 according to PED • CE-0035BN0023 according to PED • CE-0035BN0024 according to PED
Additional description	The valves must be actuated approx. 5 - 10 times per month to prevent possible sticking of the piston. Other supply voltage on request.

Socket connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Class	Type
15	4	PN40	0 ... 4	G1/2	B	**K15G35M-EX**
20	4,8	PN40	0 ... 4	G3/4	B	**K20G35M-EX**

Flange connection

DN size mm	Kvs value	Static pressure	Working range bar	Connections	Class	Type
15	4	PN40	0 ... 25	flange	B	**K15G35F-EX**
20	4,8	PN40	0 ... 25	flange	B	**K20G35F-EX**
25	10	PN40	0 ... 25	flange	B	**K25G35F-EX**
32	13	PN40	0 ... 25	flange	B	**K32G35F-EX**
40	34	PN25	0 ... 20	flange	C	**K40G35F-EX**
50	40	PN25	0 ... 20	flange	C	**K50G35F-EX**

Accessories

Rectifier / Plug	**GS**

Temperature sensors/transmitters Page

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Temperature sensors Pt100, industrial, stainless steel

Immersion probe temperature sensor, stainless steel (P)

The temperature sensor consist completely of stainless steel.

Protection class	IP67
Temperature element	Pt100
Temperature range	-50 ... 400 °C
Mounting place	in well
Additional description	• **Cable entry:** M16X1.5 • **Immersion probe** with screw-in thread G1/2" • **Material:** Tube: high-grade steel 1.4571

Immersion depth mm	Type
100	**P100-100**
150	**P100-150**
200	**P100-200**
250	**P100-250**

Accessories

Immersion tube, G1/2, immersion length 100 mm	**G12-100**
Immersion tube, R1/2, immersion length 100 mm	**R12-100**
Immersion tube, 1/2 NPT, immersion length 100 mm	**N12-100**
Immersion tube, G1/2, immersion length 150 mm	**G12-150**
Immersion tube, R1/2, immersion length 150 mm	**R12-150**
Immersion tube, 1/2 NPT, immersion length 150 mm	**N12-150**
Immersion tube, G1/2, immersion length 200 mm	**G12-200**
Immersion tube, R1/2, immersion length 200 mm	**R12-200**
Immersion tube, 1/2 NPT, immersion length 200 mm	**N12-200**
Immersion tube, G1/2, immersion length 250 mm	**G12-250**
Immersion tube, R1/2, immersion length 250 mm	**R12-250**
Immersion tube, 1/2 NPT, immersion length 250 mm	**N12-250**

Temperature sensors, ABS housing

Fast Temperature Sensor, Industrial/HVAC (STF)

The temperature sensors are designed for universal use in systems of machine construction, process control, HVAC, environmental and agricultural area.

Protection class	IP65
Temperature range	-20 ... 300 °C
Mounting place	in pipe
Cable length	2,5 m
Additional description	**Material:** Screw connection: Stainless steel 1.4571, Sensor well: Stainless steel 1.4571, Internal gasket: PTFE

Temperature element	Immersion depth mm	Sensing element (dia x L) mm; mm	Type
Pt100	max. 75	4; 75	**STF21-75**
Pt1000	max. 75	4; 75	**STF31-75**
Pt100	max. 220	4; 220	**STF21-220**
Pt1000	max. 220	4; 220	**STF31-220**

Surface temperature sensor, Industrial/HVAC (ALF)

The temperature sensors are designed for universal use in systems of machine construction, process control, HVAC, environmental and agricultural area.

Protection class	IP65
Temperature range	-30 ... 110 °C
Mounting place	strap on pipe

Temperature element	Type
Pt100	**ALF21**
Pt1000	**ALF31**

Immersion temperature sensor for Industrial, HVAC (TF)

The temperature sensors are designed for universal use in systems of machine construction, process control, HVAC, environmental and agricultural area.

Protection class	IP65
Temperature range	-30 ... 150 °C
Mounting place	in pipe
Immersion depth	max. 150 mm

Temperature element	Type
Pt100	**TF21**
Pt1000	**TF31**

Temperature sensors, ABS housing

Air duct temperature sensor, Industrial/HVAC (KF)

The temperature sensors are designed for universal use in systems of machine construction, process control, HVAC, environmental and agricultural area.

Protection class	IP65
Temperature range	-30 ... 150 °C
Mounting place	air duct
Immersion depth	max. 250 mm

Temperature element	Type
Pt100	**KF21**
Pt1000	**KF31**

Room temperature sensor for Industrial, HVAC (RF)

The temperature sensors are designed for universal use in systems of machine construction, process control, HVAC, environmental and agricultural area.

Protection class	IP65
Temperature range	-50 ... 90 °C
Mounting place	inside unit

Temperature element	Type
Pt100	**RF21**
Pt1000	**RF31**

Temperature transmitters 4..20 mA

Temperature Transmitter, Pt100, with immersion probe (PZ)

The temperature transmitters consist completely of stainless steel.

Protection class	IP65
Electrical connection	PG11
Materials	high-grade steel 1.4571
Power supply	12..36Vdc
Output signal	4..20mA
Temperature element	Pt100
Temperature range	-50 ... 400 °C
Mounting place	in well

Immersion depth mm	Type
100	**PZ100**
150	**PZ150**
200	**PZ200**
250	**PZ250**

Accessories

Immersion tube, G1/2, immersion length 100 mm	**G12-100**
Immersion tube, R1/2, immersion length 100 mm	**R12-100**
Immersion tube, 1/2 NPT, immersion length 100 mm	**N12-100**
Immersion tube, G1/2, immersion length 150 mm	**G12-150**
Immersion tube, R1/2, immersion length 150 mm	**R12-150**
Immersion tube, 1/2 NPT, immersion length 150 mm	**N12-150**
Immersion tube, G1/2, immersion length 200 mm	**G12-200**
Immersion tube, R1/2, immersion length 200 mm	**R12-200**
Immersion tube, 1/2 NPT, immersion length 200 mm	**N12-200**
Immersion tube, G1/2, immersion length 250 mm	**G12-250**
Immersion tube, R1/2, immersion length 250 mm	**R12-250**
Immersion tube, 1/2 NPT, immersion length 250 mm	**N12-250**

Hygrostats Page

Hygrostats **28-2**

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Room and air duct humidistats (H)

Line voltage humidistats for (de)humidification 2-point control in air conditioning systems.
Also applicable for swimming pools (dehumidification).

R.H. setpoint range	35 ... 100 %rh
(De) Humidification application	D + H
Additional description	Maximum air flow speed for ducts: 8 m/s.

Room humidistat H6120

R.H. hysteresis switching point %rh	Ambient temperature °C	Mounting place	Immersion depth mm	Switch function/capacity	Protection class	**Type**
4	0 ... 60	internal wall	–	SPDT 230Vac /5A (0,2A)	IP30	**H6120A1000**

Duct humidistat H6045

R.H. hysteresis switching point %rh	Ambient temperature °C	Mounting place	Immersion depth mm	Switch function/capacity	Protection class	**Type**
5	-10 ... 65	air duct	222	SPDT 250Vac/15A (8A)	IP65	**H6045A1002**

Flow monitors — Page

Mechanical flow monitors **29-2**
Electronic flow monitors **29-3**

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Honeywell

Paddle flow switches for air (S6040)

The flow switches are designed for monitoring flow rates in pipes and ducts employed in HVAC applications. For monitoring flow of non-aggressive gases in air ducts of air conditioning systems and air treatment systems.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250Vac, (8)15 A
Setpoint device	screw
Max. media temperature	85 °C
Setpoint range	2,5..9,2m/s
Max. pressure	0,25 bar

	Type
	S6040A1003
Paddle set	**PA1**

Paddle flow switches for liquid (S6065)

The flow switches are designed for monitoring flow rates in pipes and ducts employed in HVAC applications. For monitoring flow in water, oil, cooling circuits, and lubrication systems.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250Vac, (8)15 A
Setpoint device	screw
Approvals	TUEV-approval
Max. media temperature	120 °C
Setpoint range	0,6..165 m^3/h pipe size dependent

Liquid

Media	Max. pressure bar	Type
liquid non-aggressive	11	**S6065A1003**
liquid aggressive	30	**S6065A2001**

TÜV

Electronical air flow switch for air (ASL)

Air flow monitor consisting of two parts: the sensor type SLF.. and the belonging evaluation unit type ASL... For air flow monitoring in air-conditioning systems, ventilation and cooling systems and wherever flow processes in air or neutral gases have to be detected.

Protection class	sensor: IP32
Output signal	evaluation unit: relay SPST 8A, 250Vac, switch point adjustable from 0,1..20 m/s air speed
Additional description	Media temperature at sensor: -20..120 °C.

Sensor

Mounting place	Immersion depth mm	Power supply Vac; VA	Type
air duct	35	–; –	**SLF3**

Evaluation Unit

Mounting place	Immersion depth mm	Power supply Vac; VA	Type
universal	–	24; 3	**ASL453/24**
universal	–	230; 3	**ASL453**

Electronic flow switches for air, compact version (KSL)

The high reliable compact electronic flow switch is designed for detecting air flow in ducts. As soon as medium flow speed exceeds or falls under a customer adjusted value, the device will switch a electric circuit.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250 Vac, 10(2) A
Immersion depth	115 mm
Setpoint range	0,1..30 m/s
Max. media temperature	80 °C
Max. pressure	10 bar
Additional description	LED's available for indication of power supply and switch status.

Process connection PG7 + mounting flange

Power supply Vac; VA	Type
24; 10	**KSL24**
230; 10	**KSL230**

Electronical flow switch for liquid (ASW)

Fluid flow monitor consisting of two parts: the sensor type SWF.. and the belonging evaluation unit type ASW...

Protection class	sensor: IP65; evaluation unit: IP32
Output signal	evaluation unit: relay SPST 8A, 250Vac, switch point adjustable, lowest 0,03 m/s fluid speed
Additional description	For sensor: • media temperature 0..80 °C • sensing element steel

Sensor

Power supply Vac; VA	Mounting place	Immersion depth mm	Type
–; –	in pipe	25	**SWF62**
–; –	in pipe	45	**SWF62L**

Evaluation unit

Power supply Vac; VA	Mounting place	Immersion depth mm	Type
230; 3	universal	–	**ASW454**
24; 3	universal	–	**ASW454/24**

Electronic flow switches for liquid, compact version (KSW)

The high reliable compact electronic flow switch is designed for detecting water flow in pipes. As soon as medium flow speed exceeds or falls under a customer adjusted value, the device will switch a electric circuit.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250 Vac, 10(2) A
Immersion depth	20 mm
Media	liquid and air
Setpoint range	0,05..3 m/s
Max. media temperature	80 °C
Max. pressure	30 bar
Additional description	LED's available for indication of power supply and switch status.

Process connection G1/2"

Power supply Vac; VA	Type
24; 4	**KSW24**
230; 4	**KSW230**